TEXTILE TECHNOLOGY DIGEST

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ABSTRACTS

FIBERS A

FIBERS: I/EC MATERIALS OF CONSTRUCTION REVIEW. C. S. Grove, Jr., J. L. Vodonik, and R. S. Casey. Ind. Eng. Chem. 53: 853-855 (Oct. 1961).
A review of fiber developments and literature from May 1960 through June 1961 under the headings: economics, high temperature fibers, decelerators, and nonwoven fabrics. 114 refs. (5445)

TENSILE RECOVERY PROPERTIES OF FIBERS. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Sept. 1961. 24 p. Bull. X-142. Free.
Comparative data on the tensile recovery of various manmade and natural fibers obtained from tests of fiber specimens in air at various temperatures, in air at various relative humidities, and in water at various temperatures are presented. Tests were also made to determine the effects of degree of deformation, duration of deformation, and length of specimen on the tensile recovery of fibers. (5446)

MOLECULAR CONFORMATION IN ORIENTED FIBERS. A. V. Tobolsky and V. D. Gupta (Textile Research Inst.). (Letter to the editor). Textile Research J. 31: 913-914 (Oct. 1961). (5447)

STRESS-STRAIN DIAGRAM, YOUNG'S MODULUS, AND POISSON'S RATIO OF TEXTILE FIBERS. K. Higuchi and H. Takai (Tokyo Univ.). J. Textile Machy. Soc. Japan 7: 4-12 (July 1961).
Young's modulus, or the modulus of elasticity, was investigated by observing the relation between stress-strain diagrams and load-elongation diagrams. The decrease in the cross-sectional area accompanying a longitudinal extension of a textile fiber was studied together with its Poisson's ratio. See also abstr. 610/60, 2236/60, and 807/61. (5448)

Natural fibers A1

EFFECT OF INCREASED HUMIDITY ON THE BULK WEIGHT OF RAW COTTON. A. Y. Yampol'skii. Tekstil. Prom. 20, No. 8: 21-23 (1960). In Russian. Through BCIRA 41: 2889 (1961).
The variation of bulk weight of raw cotton with increased humidity is considered in relation to the type of cotton and its method of harvesting, and in connection with loading and transporting during processing. (5449)

GINNING RESEARCH TO MAINTAIN QUALITY. W. M. Hurst. Cotton Gin & Oil Mill Press 62: 7, 31 (Sept. 2, 1961).
Report on current research at USDA's three cotton ginning research laboratories. (5450)

EFFECT OF THE SHORT FIBERS IN A COTTON ON ITS PROCESSING EFFICIENCY AND PRODUCT QUALITY. PART 3. PILOT-SCALE PROCESSING OF YARNS. J. D. Tallant and L. A. Fiori (So. Reg. Research Lab.), D. M. Alberson and W. E. Chapman (USDA Ginning Lab.). Textile Research J. 31: 866-872 (Oct. 1961).
By differentially ginning a single lot of Acala 44 cotton, various short fiber content levels were obtained. Yarns produced from these cottons showed the effects of increases in short fiber content; namely, reduced strength, elongation, and appearance grade. The twist required for maximum strength was found to be largely unaffected by changes in short fiber content, except for a medium yarn number for which a relationship was demonstrated. A graph showing the close relationship between the percentage of fibers less than 3/8 in. and those less than 1/2 in., calculated for a wide number of cottons, is included. Spinning efficiency is shown to be adversely affected by changes in short fiber content. 11 refs. (5451)

FIRST REPORT: TEXAS COTTON. Textile World 111: 51 (Oct. 1961).
Fiber and spinning tests on the 1961 crop of Rio Grande and South Texas. (5452)

PROGRESS REPORT ON MULTI-PATH DRYER DEVELOPMENT. G. N. Franks and C. S. Shaw. Cotton Gin & Oil Mill Press 62: 7, 27-28 (June 24, 1961).
The multiple-path drying system consists of a conventional, 24-shelf tower dryer modified to provide, in addition to the hot-air inlet and a dried-cotton discharge, 3 cotton inlets sealed by conventional vacuum feeders. By means of a conventional separator, mounted on top of the dryer, cotton may be directed 3 ways: through the full long path (or 24 shelves), through the middle path (or 13 shelves), or through the short path (1 shelf). Data reported indicate that with suitable automatic moisture measurement and path selection, the dryer is capable of meeting variable drying needs. (5453)

TWO-CYLINDER CLEANER AND FEEDER FOR DELINTERING MACHINES. M. B. Rybal'skaya. Tekstil. Prom. 20, No. 8: 16-18 (1960). In Russian. Through BCIRA 41: 2887 (1961).
A new 2-cylindered cleaning and feeding device for controlling the flow of cotton-seed into the delintering machine is described and illustrated. (5454)

MOISTURE AFFINITY OF JUTE FIBER DURING THE GROWTH OF THE PLANT. H. Chatterjee (Indian Central Jute Comm.). J. Sci. Ind. Research (India) 20D: 286-288 (July 1961).
A differential affinity for moisture of jute fiber during pre-bud, bud, flower, small pod, and large pod stages of growth has been observed. The rate of absorption curves indicate that moisture affinity is lower at the flower stage than at the bud stage. 11 refs. (5455)

EXAMINATION OF THE DAMAGE TO COTTON BY INEXPERT GINNING. F. Walz. Textil-Praxis 16, No. 5: 458-460 (1961). In German. Through BCIRA 41: 2888 (1961).
The aim of this paper is to point out the extent to which the fibers can be damaged as a result of improper treatment of mechanically-harvested cotton and to emphasize the necessity of replacing as soon as possible the old installations by modern, efficient, and fiber-protecting gins. Reference is also made to methods used by the U.S. Department of Agriculture to control cotton quality. (5456)

COTTON: SOME ASPECTS OF QUALITY AS RELATED TO MANUFACTURE. J. E. Ross. 1961. 5 p. ASME paper no. 61-TEX-4. Available from Am. Soc. of Mechanical Engineers, 29 W. 39 St., New York 18, N.Y. $1.00.
A discussion of the effect of certain harvesting and ginning practices on spinning performance, operation level, spinning procedures employed in testing and a review of the modern gin of today and its effect on grade, quality, and price. (5457)

COTTON: MECHANICS OF GINNING AND EFFECTS ON QUALITY. J. A. Luscombe. 1961. 9 p. ASME paper no. 61-TEX-1. Available from Am. Soc. of Mechanical Engineers, 29 W. 39 St., New York 18, N.Y. $1.00. (5458)

COTTON COUNTS ITS CUSTOMERS. SUPPLEMENT. PRELIMINARY 1960. Utilization Research Div., Nat. Cotton Council of America, Memphis, Tenn. Oct. 1961. 22 p. Free.
Section 1: Estimated consumption of gray fabric, yarn and other materials by end use. Section 2: Estimated domestic cotton consumption, exports, imports, and net domestic consumption by selected end uses. (5459)

LONG FIBER BURNISHING, RIBBONING, AND CLEANING MACHINE. M. H. Byrom and H. D. Whittemore. U.S. Agri. Research Serv., Washington 25, D.C. Mar. 1961. 15 p. ARS 42-49.
The simple inexpensive machine described in this publication was originally designed to upgrade leaf or cordage fibers after decortication and drying. Later it was found to have a number of worthwhile applications on stem fibers, particularly ramie and kenaf. The construction of this machine and some of its applications are discussed. (5460)

SUPERCONTRACTION OF IODINATED WOOLS. O. A. Swanepoel (So. African Wool Textile Research Inst.). (Letter to the editor). Nature 191: 908-909 (Aug. 26, 1961).
From the results of experiments on the selective iodination of wool fibers it is concluded that the matrix alone is iodinated with n-propanolic solution, with no effect on the supercontraction, while almost total iodination of matrix and microfibrils is achieved by using ethanol as the solvent, resulting in a marked depression of second-stage supercontraction. 7 refs. (5461)

JUTE TECHNOLOGY: FIBER ORIGIN, PRODUCTION, QUALITIES, AND CLASSIFICATION. C. M. Watson. Textile Mfr. 87: 347-352 (Sept. 1961).
The points discussed include the geographical areas of production, methods of collections, main features of the fiber, quality and classification, principal faults, factors governing price, and quality assessment at mill level. 5 refs. (5462)

PHYSICAL PROPERTIES OF WOOL FIBERS AT VARIOUS REGAINS. PART 3. STUDY OF THE STATE OF WATER IN WOOL BY N.M.R. (NUCLEAR MAGNETIC RESONANCE) TECHNIQUES. G. W. West, A. R. Haly, and M. Feughelman (C.S.I.R.O. Wool Research Labs.). Textile Research J. 31: 899-904 (Oct. 1961).
Both direct absorption curves and derivative curves due to proton magnetic resonance absorption in wool have been obtained. Peak heights and widths of the absorption lines were measured for wool samples equilibrated at a number of relative humidities in the range 0 to 90%. All water protons in wool appear to be less firmly bound than the keratin protons, but less mobile than liquid water. It seems clear that an increment of absorbed water changes the binding energies of previously absorbed water. No evidence was obtained of a subdivision of water in wool into 2 or 3 fractions with different binding energies which are successively bound as the equilibrium regain is increased. 17 refs. (5463)

COTTON FROM THE SOVIET UNION. H. Langer. Melliand Textilber. 42, No. 5: 497-501; No. 6: 611-613 (1961). In German. Through BCIRA 41: 2886 (1961).
Cotton cultivation in Uzbekistan, methods of cultivation and the classification system, Soviet testing methods for determining the fiber fineness, strength, length, maturity and impurities, and micronaire results from investigations into the variations within a single bale and within a batch are discussed. (5464)

FIBERIZATION: A CRITICAL OPERATION IN ASBESTOS PROCESSING. W. E. Sinclair. Asbestos 43: 2-10 (Sept. 1961). (5465)

Manmade fibers A2

INDUSTRIAL AND MEDICAL APPLICATIONS OF CONTINUOUS ACRYLIC FILAMENTS. J. B. Rosset. Rayonne et Fibres Synthet. No. 3: 279-289 (1961). In French. Through BCIRA 41: 2909 (1961).
In this review, the author discusses the properties of continuous acrylic filaments (physical, thermal, and chemical), the production of tubular Crylor fabric and its use in vascular surgery, and other uses of tubes woven from continuous acrylic filaments. 14 refs. (5466)

DENIERS AND FILAMENTS OF U. S. MANMADE FIBERS AND YARNS, 1961. H. G. Janner. Modern Textiles Mag. 42: 73-92 (Sept. 1961).
Reprints of the pullout tables available from Modern Textiles Magazine, 303 Fifth Ave., New York 16, N.Y. at $1.00 each. (5467)

SYNTHETIC FIBERS: SOVIET INDUSTRY AND RESEARCH. E. M. Buras, Jr. (Harris Research Labs.). Chem. Eng. News 39: 126-133 (July 31, 1961); 82-88 (Aug. 7, 1961).
These two articles are based on a survey of the Soviet scientific literature and popular press conducted by the author on a continuing basis. The first one includes information on the major types of Soviet fibers and the number and distribution of the plants producing them. The second discusses research trends and achievements. (5468)

FORMATION OF GLASS FIBERS AND THEIR METHODS OF MANUFACTURE. L. Forshaw and P. E. Jellyman (Pilkington Bros. Ltd). Research 14: 397-404 (Oct. 1961).
11 refs. (5469)

DIRECTORY OF U. S. MANMADE FIBER PRODUCERS. Textile Organon 32: 142-147 (Sept. 1961). Information on executive and sales offices, plant locations, and trademarks. (5470)

ARTIFICIAL FIBERS IN OUR CLOTHING SYSTEM. J. Nüsslein. Melliand Textilber. 42, No. 5: 571-578 (1961). In German. Through BCIRA 41: 2890 (1961).
The physiological properties and functions of various fibers are discussed, and their uses, dyeing, dye selection, and dyeing techniques are reviewed. (5471)

RELATIONSHIP OF FINE STRUCTURE TO MECHANICAL PROPERTIES OF STRETCHED SAPONIFIED ACETATE FIBERS. B. S. Sprague and H. D. Noether (Celanese Corp.). Textile Research J. 31: 858-865 (Oct. 1961).
It is the purpose of this study to determine the fine structure and mechanical properties of a series of stretched acetate fibers and the corresponding rayons prepared by saponification, as a function of degree of stretching. The relationship of fine structure to mechanical properties is examined, and a qualitative explanation of the observed effects is presented. 11 refs. (5472)

SHRINKAGE OF ORLON ACRYLIC FIBER. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Oct. 1961. 2 p. Bull. OR-120 (replaces Bull. OR-67). Free. (5473)

GLASS FIBER PRODUCTION IN EASTERN EUROPE. Platinum Metals Rev. 5, No. 2: 51-53 (1961). Through BCIRA 41: 2920 (1961).
Developments in the method of manufacture of glass fiber in Russia, the German People's Republic, and Czechoslovakia are briefly reviewed. (5474)

INCREASE OF THE STABILITY OF POLYAMIDE FIBERS TO THE ACTION OF LIGHT. Y. A. Voitelev and N. D. Katorzhnov. Khim. Volok. No. 4: 3-7 (1960). In Russian. Through BCIRA 41: 2904 (1961).
This is a survey of the action of inorganic photostabilizing agents on polyamide and polyurethane fibers, with special reference to the use of chromium and manganese salts. The sensitivity of polyamide fibers to actinic degradation can be considerably reduced not only by changing the properties or structure of the initial polymer but by the introduction of small quantities of inorganic agents, often in combination. The photostabilizing agents may be introduced either into the basic monomeric materials before polymerization or into the melt of the polymer before spinning. 27 refs. (5475)

RESEARCH TO IMPROVE NYLON 501. J. W. Berkeypile (E. I. du Pont de Nemours & Co.). Daily News Record No. 199: 17 (Oct. 12, 1961).
Research objectives include improved dyeability, inherent soil resistance, and achieving tone-on-tone and cross-dyeing effects by blends with fibers of the same family. (5476)

POLYESTER ELASTIC FIBER. Eastman Chem. Co. Daily News Record No. 202: 1, 29 (Oct. 17, 1961).
Properties include resistance to discoloration and deterioration from chlorine, atmospheric fumes, and heat. Tests indicate that the fiber has a higher modulus than any current spandex fiber or rubber, tenacity similar to spandex fibers and double that of rubber, and elongation similar to that of spandex. (5477)

FATIGUE PROPERTIES OF POLYCAPROLACTAM MONOFILAMENTS AND THEIR CHARACTERIZATION AS A FUNCTION OF THE DEGREE OF X-RAY ORIENTATION. T. Karezewski. Zesz. Nauk. Politech. Lodz. Wlok. No. 6: 73-131 (1960). In Polish. Through BCIRA 41: 3105 (1961).
Literature references on the fatigue properties of polycaprolactam monofilaments, varying as regards their degree of orientation and crystallinity, are summarized. The tests were carried out under pulsating stretching and bending stresses. It was found that, within the range examined, increased orientation and crystallinity improves the fatigue resistance of polyamide 6, except for a small decrease at a draft higher than 4-fold, when bending is effected at constant tension. On the basis of experimental data, a theory is advanced, concerning the destruction mechanism for both types of stresses. 72 refs. (5478)

PREPARATION OF NYLON STAPLE FIBER FOR SPINNING. Y. A. Mazov. Khim. Volok. No. 4: 52-57 (1960). In Russian. Through BCIRA 41: 2903 (1961).
Production methods for polyamide staple fiber are surveyed. Schematic drawings are given for the production of crimped staple fiber, winding fibers from 4 spinnerets on to a single spool, continuous production of Kapron staple fiber, a single-process machine for producing Kapron staple fiber with thermo-mechanical crimping and a cutting and stapling machine. 13 refs. (5479)

PRODUCTION, PROPERTIES, AND PROCESSING OF POLYPROPYLENE FIBERS. E. Bobek. Textil-Praxis 16, No. 5: 444-447 (1961). In German. Through BCIRA 41: 2918 (1961). (5480)

PROSPECTS FOR REGENERATED PROTEIN FIBERS. R. L. Wormell. Man-Made Textiles 38: 110-111 (Sept. 1961).
In this analysis of success and failure in the field of regenerated protein fibers, the author believes that the most promising field for the further development of regenerated protein fibers is in the direction of using new combinations of metallic tanning agents to effect simultaneous depolarization and cross-linking. The theoretical aspects of the reaction are explained. 6 refs. (5481)

POLYMER DEPOSITION IN POLYVINYL ALCOHOL FIBERS. PART 1. POLYMER DEPOSITION IN WET-SPUN FIBER, HEAT-TREATED FIBER AND VARIOUS ACETALIZED FIBERS. PART 2. PROPERTIES OF POLYVINYL ALCOHOL FIBERS CONTAINING DEPOSITED POLYMER. K. Matsubayashi. J. Soc. Textile Cellulose Inds. Japan 17, No. 6: 498-507 (1961). In Japanese (English summary). Through BCIRA 41: 2917 (1961).
The aim is to improve the thermal and mechanical properties of Vinylon. Deposition of, e.g. polyacrylonitrile gives fibers with lower tenacity, greater elastic recovery and improved heat-setting properties. Benzalized fibers are better than formalized fibers. (5482)

QUALITATIVE CHARACTERISTICS OF VISCOSE STAPLE FIBER. T. V. Kononenko. Khim. Volok. No. 4: 58-60 (1960). In Russian. Through BCIRA 41: 2898 (1961).
In this review of the qualities of viscose staple fiber required for its use in combination with natural fibers, particularly wool, the author discusses fineness and length of fiber, external appearance, and surface properties. (5483)

YARN PRODUCTION B

CAN WHITE AND LIGHT SPOTTED COTTONS BE BLENDED WITHOUT IMPAIRING YARN AND FABRIC PROPERTIES? L. A. Fiori, W. G. Sloan, and P. B. Marsh (So. Reg. Research Lab.). Textile Bull. 87: 45-52 (Oct. 1961).
Four weathered cottons (2 microbially damaged and 2 environmentally damaged) were blended with white control cottons in various percentages and were processed into yarns and finished fabrics. Light spotted cottons of the type used in this investigation apparently can be used successfully in blends up to 25% with white cotton without impairing seriously either yarn or fabric properties in the gray state. For finished materials, there are indications that desizing, a double caustic boil-off, stripping with 10% sodium hydrosulfite and bleaching before dyeing are effective in eliminating color differences due to spotted cottons. 23 refs. (5484)

COMPARISON OF WEIGHT FEEDING AND CONVENTIONAL VOLUME FEEDING OF COTTON IN THE OPENING ROOM. W. T. Waters and J. Phillips (Auburn Univ.). Textile Bull. 87: 57-63 (Oct. 1961).
Trials were run comparing processing and spinning performance and yarn quality of stock blended by conventional blending feeders (volume feed), the Fiber Meter System (weight feed), and massive preblending. The results of these trials indicate that weight feeding and preblending offer only small improvements in spinning performance and yarn single strand strength over conventional volume feeding. Other properties such as fiber properties in picker lap and finisher drawing sliver, product evenness, count variation, yarn appearance, skein strength, color variation, and dye affinity show no appreciable differences or consistent trends between blending methods. (5485)

BLENDS FOR WOOLEN YARN. PART 3. L. Bellwood. Wool Rev. 35: 14 (June 1961).
Slipe wools, skin wools, and noils are discussed. (5486)

BLENDS FOR WOOLEN YARN. PART 6. L. Bellwood. Wool Rev. 35: 20 (Sept. 1961).
The characteristics of the various types of mohair, alpaca, and camel hair fibers used in blended wool yarns are briefly described. (5487)

BLENDS FOR WOOLEN YARN. PART 7. L. Bellwood. Wool Rev. 35: 41 (Oct. 1961).
Cashmere, Persian cashmere, vicuna, reindeer hair, and miscellaneous furs and hairs and their uses in blends are described. (5488)

BLENDING IN THE WORSTED INDUSTRY. PARTS 1 AND 2. H. Needham and W. Parkin. Wool Rev. 35: 16-17 (June 1961); 14-15 (July 1961).
10 refs. (5489)

PROCESSING TRICEL AND COURTELLE BLENDS WITH FLAX ON LINEN-TYPE MACHINERY. Textile J. Australia 36: 809 (July 20, 1961). (5490)

CARDED YARN [MANIPULATION] SPINNING. H. Bockner. 6 p. Art. 2004, 2/9, vers. 1. Available from Intern. Textile Serv., Zurich 48, Switzerland. Free.
The article includes information on standards, raw materials used, blending procedures, and machine settings. (5491)

DEVELOPMENT TRENDS IN COTTON SPINNING. R. Tobel. Z. ges. Textil-Ind. 63, No. 5: 392-397; No. 6: 445-448 (1961). In German. Through BCIRA 41: 2945 (1961).
The state of spinning technology reached in 1960 is reviewed, with reference to innovations in carding, drawing, and spinning. 28 refs. (5492)

FIBER AND BATCH HOMOGENEITY AS A CRITERION IN WORSTED SPINNING. G. Nitsche. 9 p. Art. 2006, 2/9, vers. 1. Available from Intern. Textile Serv., Zurich 48, Switzerland. Free.
Results of experiments on the effect of variations in fiber and batch homogeneity on the processing of wool and manmade fibers on the worsted system are presented. The importance of proper blending in the combing room is stressed. (5493)

OILING OF NITRON ACRYLIC FIBER. L. G. Kharitonova and A. N. Chestnova. Khim. Volok. No. 4: 68-69 (1960). In Russian. Through BCIRA 41: 2914 (1961).
The need for oiling of Nitron fiber after drying is stressed; in comparison with fiber lubricated before drying the consumption of lubricating compound is practically doubled, the breaking strength and elongation are increased, and static electrification due to friction is reduced. (5494)

RECENT WORK ON BATCHING OIL SUBSTITUTES FOR JUTE. K. K. Chatterjee, P. K. Saha, and P. B. Sarkar. Textile Mfr. 87: 425-427 (Oct. 1961).
The present investigation was undertaken to find a suitable substitute for batching oil. Aqueous solutions of some wetting and softening agents, as well as Syton (colloidal silica), were tested. On the basis of spinning performance and yarn quality, Waxol HE (Imp. Chem. Inds. Ltd) appeared to be a good substitute for top grade fibers. (5495)

IMPROVEMENT OF CLEANING METHOD IN SPINNING MILLS. PART 1. CHARACTERISTICS OF CLEANING WITH SUCTION NOZZLE BY AIR FLOW. Y. Niitsu, S. Fujimori, and Y. Hosokawa. J. Textile Machy. Soc. Japan 7: 49-55 (July 1961).
As the initial step in designing a cleaning apparatus which uses air flow, the critical and terminal velocity of deposited fly was determined and the characteristics of a suction nozzle analyzed both theoretically and experimentally. As a result, data was obtained for use in designing suction nozzles of both the fixed and traveling types. See also abstr. 2693/59, 2694/59, 2695/59, 2696/59, and 2929/59. (5496)

FIBER CRIMPING SURVEY. Turbo Mach. Co. Modern Textiles Mag. 42: 38, 62-63 (Oct. 1961).
The purposes of crimping, the techniques used, and the degree of control possible are summarized. (5497)

HIGH DRAFT THEORY. APPLICATION IN SPINNING COTTON AND ARTIFICIAL AND SYNTHETIC FIBERS. O. Bigatti. Riv. Tessile 37, No. 1: 11-16; No. 2: 9-16; No. 3: 77-79; No. 4: 111-113; No. 5: 161-163; No. 6: 209-214 (1961). In Italian. Through BCIRA 41: 2946 (1961). (5498)

STRETCH-BREAKING NYLON TOW ON A SEYDEL MACHINE: CONTROL OF FIBER LENGTH. Brit. Nylon Spinners Ltd, Textile Develop. Dept. Advance Report No. 43. Aug. 1961. 3 p. (5499)

AVOID CREEL DRAFT VARIATION. N. L. Enrick. Modern Textiles Mag. 42: 28, 61 (Oct. 1961).
A simple test for detecting and correcting creel draft variations at the drawing, roving, and spinning frame is described. (5500)

FUTURE TRENDS IN SYNTHETIC FIBER TRANSFORMING AND BLENDING. G. N. Giraudi (Roberts Co.). Man-Made Textiles 38: 110-112 (Oct. 1961).
The Roberts-Tematex tow transformer permits the transformation in one operation of synthetic fiber tow into a sliver with the specific character desired by the fabric designer. Features and specifications of the machine are covered. (5501)

Opening, picking, fiber preparation B1

THE BLOWING ROOM IN MODERN COTTON SPINNING. B. Wolf. 15 p. Art. 1002, 2/1, vers. 1. Available from Intern. Textile Serv., Zurich 48, Switzerland. Free.
This survey of modern opening installations includes a discussion of the technical aspects of opening and the design and operation of modern machines. Installations and equipment covered include those manufactured by Rieter, Trützschler, Saco-Lowell, Tweedales & Smalley, and Whitin, as well as SRRL cleaner-opener. (5502)

Carding and combing B2

EFFECT OF VARIOUS CARDING FACTORS. G. O. Lezhebrukh. Tekstil. Prom. 20, No. 8: 27-29 (1960). In Russian. Through BCIRA 41: 2940 (1961).
The factors considered are: the variable amount of time during which fibers simultaneously fed into the carding machine may remain in the machine, the consequent mixing of fibers, the speed of the rollers, the straightening action of the individual machine, the speed of rotation and clothing of the doffer, the speed of rotation of the main cylinder and its setting in relation to the doffer. (5503)

CLEANING ACTION OF COTTON CARD EQUIPPED WITH METALLIC CLOTHING. PART 1. COMPARATIVE SPINNING TESTS ON CARDS EQUIPPED WITH METALLIC AND WIRE FILLET CLOTHING. C. Nozaki and others. J. Textile Machy. Soc. Japan 7: 19-27 (July 1961).
Comparative spinning tests were made of 2 types of card: one equipped with several tooth angle combinations of metallic card clothing on the cylinder and on the doffer; the other equipped with ordinary wire fillet clothing. The metallic clothing gave a higher yield with less impurities, but the slivers were more irregular. A large tooth angle on the cylinder and a small one on the doffer is recommended. See also abstr. 3457/60. (5504)

AUTOMATIC SLIVER WEIGHT CONTROL FOR BALLING SLIVER FED TO A WORSTED CARD. F. Murakami and K. Hosotsuji (Toyo Spinning Co. Ltd). J. Textile Machy. Soc. Japan 7: 13-18 (July 1961).
The authors have designed an automatic sliver weight control device based on the open-loop control principle and used it on the balling head to reduce weight variations in combined slivers. The control device has been found to eliminate periodic weight variations almost entirely, provided their wave length is more than 2 meters in terms of card slivers. See also abstr. 3056/60. (5505)

ART OF WOOLEN CARD SETTING. A. J. Bennett. Indian Textile J. 71: 559-560 (Aug. 1961). (5506)

MILL SHATTERS CARDING LIMITATIONS! Swift Spinning Mills. Textile Inds. 125: 62-64 (Oct. 1961).
The development, design, and advantages of the Duocard are outlined. (5507)

PNEUMATIC REMOVAL OF WASTE AND DUST FROM COTTON CARDING MACHINES. G. N. Smirnov, K. G. Shustenkova, and A. I. Ivanov. Tekstil. Prom. 20, No. 8: 52-54 (1960). In Russian. Through BCIRA 41: 2941 (1961).
The authors describe an installation for the removal of waste and dust from cardrooms. It works on pneumatic principles and can deal with 4 or 5 carding machines simultaneously. The waste and dust are filtered from the air, which is recirculated into the cardroom. (5508)

FLAT NEEDLES FOR COMBING AND SPINNING MACHINES. German Standards Comm. Melliand Textilber. 42, No. 6: 650-651 (1961). In German. Through BCIRA 41: 2942 (1961).
The German draft specification DIN 64 135 lists the dimensions, material, and finish of flat needles for combing and spinning machines. (5509)

Drawing and roving B3

CONDITIONS FOR PROCESSING 6 DENIER 4-6 INCH MEDIUM CRIMP HEAT-SET NYLON STAPLE ON BRADFORD OPEN DRAWING MACHINERY. Brit. Nylon Spinners Ltd, Textile Develop. Dept. Advance Report No. 45. Aug. 1961. 6 p.
Results of laboratory scale trials to ascertain the optimum conditions of draft, ratch, and twist throughout drawing are reported. (5510)

MODERN SYSTEMS OF WORSTED DRAWING. PART 2. H. Needham and W. Parkin. Wool Rev. 35: 18-19 (Sept. 1961).
Details of the apron-draft roving box, new Bradford system, and new Continental system are covered. (5511)

Spinning, winding, twisting B4

STATISTICAL PROCEDURE FOR DETERMINING END BREAKAGE RATE IN SPINNING. E. F. Schultz, Jr., H. W. Little, J. D. Tallant, and L. A. Fiori (So. Reg. Research Lab.). Textile Research J. 31: 872-874 (Oct. 1961).
Standard deviations of yarn break data, taken by uniform increments of spindle hours, increased linearly with average rate of breakage and were larger than expected for a Poisson distribution. Transforming the numbers of breaks to $\log_{10}$ (1 + number of breaks) stabilized the variance. In a specific case, analysis of data for 720 spindle hours per yarn taken by 12 increments of 60 hr yielded 95% confidence limits describing the average number of breaks per yarn as within 30% of the observed number of breaks. 8 refs. (5512)

MAGNETIC PROPERTIES OF MAGNEDRAFT SPINNING FRAMES. W. J. Cunningham (Saco-Lowell Shops). Southern Textile News No. 38: 30 (Oct. 7, 1961).
Reasons for confidence in the permanency of the magnetic forces used in manufacturing the MagneDraft top roll are cited. (5513)

AUTOMATIC STOP DEVICE FOR SPINNING MACHINES DURING UNDERWINDING OF THE YARN. S. F. Ivanyushin. Tekstil. Prom. 20, No. 8: 56-57 (1960). In Russian. Through BCIRA 41: 2953 (1961).
A simply-constructed device for stopping a spinning machine automatically when doffing the cops is described. It is claimed that the use of the device reduces the number of yarn layers on the bare spindle from 8-10 to 3-4 and, in the example quoted, results in a saving of 480 kg of yarn per year. (5514)

AUDOMAC DOFFER SYSTEM. Whitin Mach. Works. Am. Textile Reptr. 75: 31-34, 63 (Oct. 19, 1961). Textile Bull. 87: 53-56 (Oct. 1961). Modern Textiles Mag. 42: 38-40, 44 (Sept. 1961).
In the sequence of its automatic operation, the Audomac handles bobbin loading, selection, transportation, monitoring, doffing, donning and cleaning. An entire spinning frame of any length can be doffed in 2 min of downtime with fewer ends down than is normal in manual doffing. The operation of the system is described and its advantages cited. (5515)

WORK LOADS ON CONTINUOUS RING SPINNING MACHINES. J. M. Massanet. Ingenieria Textil Nos. 3-4: 133-137 (1961). In Spanish. Through BCIRA 41: 2956 (1961). (5516)

DR II RING PULLING MACHINE. M. Brouwer & Co. Textile Weekly 61 (2): 586 (Sept. 15, 1961).
The machine fits reinforcing ferrules to ring tubes used on all modern ring frames. (5517)

HIGH SPEED NARROW TYPE RING SPINNING FRAME. Threlfall (Richard) Ltd. Textile Recorder 79: 143, 148-149 (Oct. 1961).
The Threlfall 126 cotton type machine is designed for vertical spinning at speeds up to 15000 rpm. Features and operation are covered. (5518)

MODERN WOOLEN RING FRAMES. L. Firth (Platt Bros. & Co. Ltd). Textile Mfr. 87: 356-358 (Sept. 1961).
Following a description of the Platt MWR 3, 4, and 5 woolen ring frames, as representative of the latest developments in this area, the factors to be considered in the selection and installation of ring frames are discussed. (5519)

DEVELOPMENTS IN WORSTED SPINNING. H. Needham and W. Parkin. Wool Rev. 35: 19-21 (Oct. 1961).
11 refs. (5520)

EFFECTS OF TOP DRAFTING ROLL WEIGHTING AND APRON CHARACTERISTICS ON OPERATING CONDITIONS AT THE RING SPINNING MACHINE AND ON YARN PROPERTIES. E. Kirschner. Textil-Praxis 16, No. 5: 468-474 (1961). In German. Through BCIRA 41: 2948 (1961).
Increased top roll weighting (from 17.4 to 24.7 and 31.8 kg, respectively) has no adverse effect on machine performance and yarn properties during spinning of medium-fineness viscose staple fiber. The 3 top-apron types used (leather and 2 plastics) showed no disadvantages during spinning of normal viscose staple yarn (medium fineness), but distinct quality differences were found between the 2 plastic aprons in the case of coarser viscose staple yarn and a viscose staple/Rhovyl-Fibra blend. (5521)

MEASUREMENT OF TOP DRAFTING ROLL WEIGHTING PRESSURE ON RING SPINNING MACHINES. J. G. Helli. Textil-Praxis 16, No. 5: 474-475 (1961). In German. Through BCIRA 41: 2949 (1961).
It is shown that the variations in weighting pressures measured by the previously described device (abstr. 888/60) are not due to the apparatus but to the drafting system itself (uneven weighting springs, different top roll diameters and top roll distance, etc.). A practically tested measuring method is described, which gives reliable results even for top roll weighting carriers for which the methods recommended by the suppliers of the apparatus were not satisfactory. (5522)

SPINDLE DRIVES ON SPINNING AND TWISTING MACHINES. PART 2. O. Heimeran. Textil-Praxis 16, No. 5: 478-481 (1961). In German. Through BCIRA 41: 2950 (1961).
Further patent literature referring to spindle drives and their components is reviewed, and it is concluded that, although for ring spinning and ring twisting spindles the classical 4-spindle tape drive and the new spindle-spindle short-tape drive are the most important types, the latter is most advantageous from the technical viewpoint. For Part 1 see abstr. 3446/61. (5523)

INVESTIGATIONS INTO THE PERFORMANCE OF RING TRAVELERS ON SPINNING RINGS OF COTTON RING SPINNING MACHINES. PART 13. O. König and H. Herdtle. Textil-Praxis 16, No. 5: 476-478 (1961). In German. Through BCIRA 41: 2952 (1961).
For previous parts see abstr. 3459/61. (5524)

SPINNING TABLES. 1 p. Art. 202, 2/10, vers. 1. Available from Intern. Textile Serv., Zurich 48, Switzerland. Free.
Nomogram for obtaining traveler speed from ring diameter and spindle speed. (5525)

INCREASED OUTPUT WITH THE USE OF IMPROVED RINGS AND TRAVELERS. S. Furst. 6 p. Art. 1003, 2/8, vers. 1. Available from Intern. Textile Serv., Zurich 48, Switzerland. Free.
The factors affecting ring and traveler performance are examined. The discussion is divided into two sections: the first deals with factors extraneous to ring and traveler design (centering of rings and spindles, tube and ring diameters, balloon control rings, atmospheric conditions); the second deals with design factors (selection of materials and sizes and shapes). (5526)

RING SPINNING AND DOUBLING: SEARCH FOR HIGHER SPEEDS. L. G. Forbes (Eadie Bros. & Co. Ltd). Textile Mfr. 87: 359-361 (Sept. 1961).
The speed limitations imposed by rings and travelers are discussed, and recent research developments in traveler design are reviewed. (5527)

Yarns B5

RESISTANCE OF CORD TO REPEATED BENDING AT HIGH TEMPERATURE. E. A. Nemchenko. Khim. Volok. No. 4: 49-51 (1960). In Russian. Through BCIRA 41: 3115 (1961).
Fatigue tests carried out with the Metrimpex apparatus at temperatures of 80° and 130° show that Kapron cord has a considerably greater resistance to repeated bending than viscose cord. (5528)

STATISTICAL INTERPRETATION OF FIBER COUNTS IN YARN CROSS-SECTIONS. D. N. E. Cooper (Courtaulds Ltd). Textile Research J. 31: 845-858 (Oct. 1961).
This paper is concerned with the comparison of the arrangement of fibers obtained in binary blended yarns with that expected in a random system. The paper is divided into three sections. In Part 1 an elementary theory of blend irregularity is presented and the factors affecting irregularity in a model binary yarn are examined. The published tests for random mixing are reviewed, and it is shown that the correct test for randomness is one based on the variance of blend proportions. Part 2 discusses the application of the theory to real yarns. In Part 3 the problem of fiber arrangement within yarn cross-section is considered. It is concluded that the most sensitive test for a departure from a random arrangement along a line in the cross-section is that based on the number of apparent groups. If it is desired to investigate the separate behavior of the two components, the less sensitive method, based on the variation of blend proportions, must be used. 26 refs. (5529)

USE OF VISCOSE STAPLE FIBERS IN BLENDS WITH COTTON. K. P. Smirnov. Tekstil. Prom. 20, No. 8: 24-26 (1960). In Russian. Through BCIRA 41: 2955 (1961).
The use of a 32/33 mm viscose staple fiber in blends with cotton produces a stronger and more even yarn than a 38/40 mm fiber. The closer the fiber length of the staple fiber approaches that of the cotton, the more uniform will be the yarn. Other physical and mechanical properties (strength, quality, and breaking length) are tabulated for various percentages of cotton/staple fiber mixtures. (5530)

STUDY ON THE STRUCTURE OF BLENDED YARNS. PART 12. RELATION BETWEEN THE DIFFERENCE OF THE FINENESS AND THE BLEND PERCENTAGE OF THE COMPONENT FIBERS AND THE LONGITUDINAL DISTRIBUTION. S. Ueno and S. Yatsuzuka. J. Soc. Textile Cellulose Inds. Japan 17, No. 6: 491-497 (1961). In Japanese (English summary). Through BCIRA 41: 3110 (1961).
Data from photomicrographs of yarn cross-sections (plate-sectioning method) for rayon staple/cotton blends and blends of rayon staple of different denier are analyzed and discussed. (5531)

RAW MATERIALS OF THE CORDAGE INDUSTRY. S. A. G. Caldwell. Textile Mfr. 87: 402-405 (Oct. 1961).
The fibers commonly used in the cordage industry (cotton, flax, hemp, jute, sisal, coir, rayon, nylon, and Terylene) and their respective properties and market position are described. (5532)

REED TAPERING CHARACTERISTICS OF JUTE FIBER AND YARN IRREGULARITY PREDICTION. U. Chatterjee and S. B. Bandyopadhyay (Indian Central Jute Comm.). (Letter to the editor). J. Textile Inst. 52: T430-T432 (Sept. 1961). (5533)

PRODUCTION OF FANCY YARNS DURING SPINNING. N. Primentas. Textile Mfr. 87: 397-401 (Oct. 1961).
The various methods, simple arrangements, and special motions employed in making flake, gimp, slub, core, corkscrew, and similar fancy effects during drafting, spinning, and doubling operations are described. See also abstr. 3924/61. (5534)

RELATIVE WET STRENGTH OF YARNS AND CORDS FROM SYNTHETIC FIBERS. G. Klust. Textil-Praxis 16, No. 5: 514-516 (1961). In German. Through BCIRA 41: 3116 (1961).
Relative wet strengths were determined on yarns and cords from polyamide, polyester, polyethylene, polyvinyl alcohol, polyvinyl chloride and polyacrylonitrile to show the extent to which, in examination of the wet breaking load, the type of water used, and the time of soaking affect the results. This is of particular importance in the case of fish net yarns and cords. (5535)

BULKED AND STRETCH YARNS OF NYLON 66 PRODUCED BY THE FALSE-TWIST PROCESS: COMPARISON OF PARENT AND POST-TREATED YARNS. K. Vidhani and T. S. Nutting (Hosiery & Allied Trades Research Assoc.). J. Textile Inst. 52: P449-P470 (Sept. 1961).
Paper presented at Textile Inst. Conf. on Bulked Yarns. A range of post-treated false-twist yarns were prepared from 70 den. nylon 66 yarns. Post-heat treatments were carried out at (A) a fixed heater temperature of 212° C; (B) the temperature at which the parent yarn was produced. Yarns produced by method (A) had crimp rigidities and yarn diameters which decreased as the post-heat temperature approached and exceeded that of the parent yarn production temperature. All yarns produced by method (B), irrespective of temperature, produced yarns of similar crimp rigidity and diameter. The modulus at 5% extension and the load required to extend the fabric by 50% were measured on fabrics knitted from the yarns. The major controlling factor appears to be the yarn crimp rigidity. 4 refs. (5536)

STUDY OF THE RELATIONSHIP OF YARN IRREGULARITY WITH FIBER PROPERTIES AND ITS EFFECT ON YARN STRENGTH. N. Balasubramanian and R. L. N. Iyengar (Indian Central Cotton Comm.). Indian Textile J. 71: 561-567, 571 (Aug. 1961).
Cotton yarn irregularity was considerably influenced by the properties of the fibers from which it was spun. Among the fiber properties studied, the coefficient of fiber length variation contributed most to irregularity. Yarn strength was affected significantly by yarn irregularity. 20 refs. (5537)

FANCY EFFECTS IN COTTON YARNS. G. Reichelt. 3 p. Art. 201, 2/1, vers. 1. Available from Intern. Textile Serv., Zurich 48, Switzerland. Free.
Methods of obtaining button and slub yarns and imitation linen are described. (5538)

FABRIC PRODUCTION C

REPORT OF DISCUSSIONS OF QUESTIONS ON SLASHING AND WEAVING. Textile Operating Executives of Georgia, Georgia Inst. of Technol., Atlanta, Ga. 1961. 12 p.
Slashing: multi-cylinder slashers, static electricity, Stretchmeter, size boxes, squeeze rolls, stretch, and quality control. Weaving: cleaning, shuttles, loom supply costs, filling batteries, slack selvages, thread cutters, starch, group meetings, metalized sand rolls, shuttle checks, dobbies, and Hunt letoff. (5539)

Warping, slashing, yarn preparation C1

SIZING SPUN RAYON. M. Austin. Fibre and Fabric 114: 8-9 (Sept. 1961).
Precautions to be observed are noted. (5540)

MOREL YARN CONDITIONING MACHINE. Textile Weekly 61 (2): 525-527 (Sept. 8, 1961).
The Morel conditioning machine offers 3 alternative methods of controlling the amount of moisture supplied. Five rows of atomizers or spraying nozzles are employed, and the amount of moisture sprayed on the yarn can be varied by the number of atomizers being used, by the pressure of the pump, and by the speed of the machine. (5541)

STUDIES ON KNOT STRENGTH. W. Wegener and H. Landwehrkamp. Z. ges. Textil-Ind. 63, No. 4: 252-255; No. 5: 398-403 (1961). In German. Through BCIRA 41: 2971 (1961).
The study was carried out on worsted, cotton, and viscose rayon staple yarns knotted in 4 different ways. Factors affecting the knot strength are discussed, and the results are compared in tables. (5542)

HYPOCHLORITE-OXIDIZED HIGH-AMYLOSE STARCHES: VISCOSITY BEHAVIOR. R. L. Mellies, C. L. Mehltretter, and F. R. Senti (Northern Reg. Research Lab.). J. Chem. & Eng. Data 5: 169-171 (Apr. 1960).
A drawback to utilization of the desirable film-forming properties of high-amylose cornstarch in sizing operations is its lack of dispersibility. This disadvantage can be overcome by appropriate chemical modification. Hypochlorite oxidation of high-amylose cornstarch imparts water solubility and reduces the tendency of the starch to retrograde. (5543)

BOBBIN MEASUREMENT ON CHANGING SHIFTS. H. Johannsen. Textil-Praxis 16, No. 5: 483-484 (1961). In German. Through BCIRA 41: 2972 (1961).
A simple measuring device is described, by means of which the diameter of bobbins remaining in the winding machine can be accurately measured at the end of each shift so as to ensure just calculation of piece-work wages. (5544)

FILLING HANDLING TODAY. R. B. Pressley. Textile World 111: 52-73 (Oct. 1961).
This special report has 3 major parts, plus a collection of case histories of actual mill installations: Winding filling in big packages; Better ways to quill filling; Handling filling at the loom; and Nine case histories in handling filling. Each of the 3 sections on equipment has machine descriptions, operating data, and photos. In the last section (case histories) charts and graphs showing production, process flow, yarn cost per pound, labor savings, and payout for actual mill installation are included. (5545)

YARN MEASUREMENT DURING WINDING. J. Hengstler KG. Textile Weekly 61 (2): 592 (Sept. 15, 1961).
The new counter, which preselects the required yarn length to be wound, has been designed for winding fine threads at high speeds. (5546)

SCAGLIA HOT AIR STRIPPING MACHINE FOR METAL BOBBINS. Textile Weekly 61 (2): 532 (Sept. 8, 1961). (5547)

SINTER CERAMICS FOR THREAD GUIDES IN THE PRODUCTION AND PROCESSING OF SYNTHETIC FILAMENTS. E. A. Klingler. Z. ges. Textil-Ind. 63, No. 4: 299-305 (1961). In German. Through BCIRA 41: 2970 (1961). (5548)

WARP BEAMS: WARP BEAM DISCS FOR WEAVING LOOMS. German Standards Comm. Melliand Textilber. 42, No. 6: 651 (1961). In German. Through BCIRA 41: 2973 (1961).
The draft specification DIN 64 512 gives the diameters in mm for warp beams and warp beam flanges. (5549)

Weaving C2

DETERMINATION OF THE ALLOCATION TIME AND THE NUMBER OF LOOMS FOR MULTIMACHINE OPERATION IN WEAVING SHEDS. W. Sassmannshausen. Z. ges. Textil-Ind. 63, No. 4: 273-277; No. 5: 405-407 (1961). In German. Through BCIRA 41: 2981 (1961).
The method described for the determination and calculation of the patrolling and supervision time is based on work studies in the plants. Advantages of the method are pointed out. (5550)

THE SCIENTIST LOOKS AT THE WOOL INDUSTRY: WEAVING. PART 2. Wool Sci. Rev. No. 19: 3-19 (June 1961).
Part 1 (abstr. 91/61) reviewed the physical principles of the weaving process and discussed the following features of the yarn and the loom that are essential to produce uniform cloth: uniformity of yarn, uniformity of warp and weft tensions, constant spacing of the warp and weft yarns, and constant width of cloth. Part 2 discusses how these demands are met in modern practice. 8 refs. (5551)

HEAVY DUTY NO. 8 DOBBY. Crompton & Knowles Corp. Modern Textiles Mag. 42: 44 (Oct. 1961).
The jack back is held securely between two steel plates which are riveted to the jack. The bushing and jack back are replaced by pressing out the square pin which supports the bushing in the jack plates. Roll pin dobby hook and needle racks are used for the bottom position, and the roll pin teeth can be easily replaced if damaged. (5552)

DRAPER X-3 LOOM. Draper Corp. Modern Textiles Mag. 42: 40, 65 (Oct. 1961).
The range of fabrics for which the X-3 loom was designed includes plain and fancy cottons, sateens, broadcloth, lawns, poplins, corduroys, oxfords, twills, light and medium weight ducks, cords, terry toweling, and batistes, as well as a comparable range of filament and spun manmade fibers. Its features and versatility are noted. (5553)

AIDS TO THE LOOMFIXER. Fibre and Fabric 114: 11-12 (Sept. 1961).
The setting of the center fork motion of Draper X-2, XK, XD, and XP looms without the use of gages is explained. (5554)

AIDS TO THE LOOMFIXER. Fibre and Fabric 114: 11-12 (Oct. 1961).
The sliding bar warp stop motion is discussed. (5555)

GAGES IN DRAPER LOOM MAINTENANCE. PART 12. KEEPING THE TRANSFER MOTION WORKING CORRECTLY. Textile Inds. 125: 74-75 (Oct. 1961). (5556)

LOOMFIXER AND HIS JOB. PART 33. W. Westbrook. Textile Bull. 87: 68, 70 (Oct. 1961).
The advantages of running comparison tests on various makes of repair parts are discussed. (5557)

ALUMINUM FOIL-CENTERED JACQUARD PATTERN CARDS. A. S. Toone & Sons Ltd. Textile Weekly 61 (2): 536 (Sept. 8, 1961).
The cards are claimed to be dimensionally stable to humidity changes. (5558)

LENTZ LF III LOOM. R. Maier. Z. ges. Textil-Ind. 63, No. 4: 259-263 (1961). In German. Through BCIRA 41: 2974 (1961).
Various components of the Lentz F III loom and their mechanisms are described. (5559)

WEAVING WITHOUT SHUTTLES. Z. Travnicek. New Scientist 11: 35-37 (July 6, 1961). Through BCIRA 41: 2976 (1961).
The Czechoslovak type H 105 B water jet loom is described. (5560)

STUDY ON AIR-JET LOOMS. M. Uno and others (Kyoto Tech. Univ.). J. Textile Machy. Soc. Japan 7: 28-36 (July 1961).
Pneumatic injection of the weft into free air or shed has been studied with the aid of several experimental devices. The best nozzle shape for weft propulsion was determined and a test loom was constructed. Results of experiments on air velocity, force of propulsion, and weft speed are reported. See also abstr. 3087/60, 3512/60, 4360/60, 88/61, 1460/61, and 2907/61. (5561)

THE SHUTTLELESS LOOM. A. E. McKenna. 1961. 4 p. ASME paper no. 61-TEX-3. Available from Am. Soc. of Mechanical Engineers, 29 W. 39 St., New York 18, N.Y. $1.00.
A review of conventional looms, their functions and limitations, and the advantages and disadvantages of several new shuttleless looms lately introduced to commercial practice. This paper forms the basis of a panel discussion on shuttleless looms. (5562)

MAXBO SHUTTLELESS LOOM. R. J. Farr. 1961. 4 p. ASME paper no. 61-TEX-2. Available from Am. Soc. of Mechanical Engineers, 29 W. 39 St., New York 18, N.Y. $1.00. (5563)

ASTRA HEAVY WEAVING MACHINES. G. Hofmann. Z. ges. Textil-Ind. 63, No. 4: 264-268 (1961). In German. Through BCIRA 41: 2975 (1961).
Various models of UF (universal felt) weaving machines constructed by the Astra Works are described. Specially adapted models of these machines can be used for the production of wide jute, sisal, and coir fabrics (the model UFK is also suitable for jacquard weaving). (5564)

MODERNIZATION OF PICKING MOTIONS FOR AUTOMATIC LOOMS. N. I. Makachev. Tekstil. Prom. 20, No. 8: 30-33 (1960). In Russian. Through BCIRA 41: 2978 (1961). (5565)

NEW SHUTTLE BOX UNLOADER. V. V. Polinkevich and G. N. Lebedev. Tekstil. Prom. 20, No. 8: 33-34 (1960). In Russian. Through BCIRA 41: 2979 (1961). (5566)

POLYESTER FIBERS IN BOBBIN NET WEAVING. H. Fritsche. Melliand Textilber. 42, No. 5: 519-522 (1961). In German. Through BCIRA 41: 2983 (1961).
Developments in this field are discussed, and various designs are shown. (5567)

Knitting C3

QUALITY CONTROL IN WARP KNITTED FABRICS. W. E. Symonds (Kayser Bondor Ltd). Textile Merc. 145: 274-275, 282-283, 286 (Sept. 1, 1961). (5568)

WORLD KNITTING MACHINERY SURVEY. Hosiery Trade J. 68: I-LXIX (Oct. 1961).
Tabulated survey which lists the stitch and patterning potential of machines available from 50 of the world's chief builders of knitting machinery under the following headings: warp, flat, circular piece-goods, circular garment-making, circular hosiery, and Cotton's patent machinery. (5569)

KNITTING MACHINERY: REVIEW OF CURRENT TRENDS AND DEVELOPMENTS. Skinner's Silk & Rayon Record 35: 955, 958 (Oct. 1961). (5570)

TRENDS IN KNITTING, 1956-1961. J. B. Lancashire. Hosiery Times 34: 28-37 (Sept. 1961).
Part 1. Cut and stitch-shaped underwear and outerwear machines. Part 2. Hose and half-hose machines. (5571)

KIRKLAND DJK 36 HIGH SPEED DOUBLE KNIT MACHINE. J. B. Lancashire (Leicester Coll. Technol.). Knitted Outerwear Times 30: 41 (Oct. 23, 1961).
The Kirkland DJK 36 is a dogless model with a needle cylinder 30 inches in diameter. It has 36 knitting feeds. Its features and operation are briefly described. (5572)

LEBOCEY MACHINES FOR PRODUCING DOUBLE KNIT FABRICS. J. B. Lancashire. Knitted Outerwear Times 30: 27-29, 49-51 (Oct. 9, 1961).
The existing range of Lebocey circular double jersey machines includes a basic interlock unit CLI; CLI 8S, modified for eightlock fabrics; OCTAVIT for non-jacquard double jersey fabrics; MACDET featuring cam control for effecting changes of stitch during knitting; pattern wheel NOPAVIT; pattern wheel NOPAVITAR incorporating striping units; and sweater-strip MACBOR and AROUDAL 333. Technical features of these machines are summarized. (5573)

DEVELOPMENTS IN FOUQUET CIRCULAR MACHINES. Knitted Outerwear Times 30: 31, 59-61 (Oct. 9, 1961).
Survey of features and patterning scope of the SID interlock series, SMJ-R unit (nonspiral double jersey machine capable of forming a tubular as well as pique welt), and SRU single jersey unit. (5574)

PHILIP PAP CYLINDER AND DIAL SWEATER-STRIP MACHINE: PATTERN SCOPE, TECHNICAL FEATURES. C. Reichman. Knitted Outerwear Times 30: 7-13 (Oct. 9, 1961).
See also abstr. 2444/61. (5575)

SUPREME IRW/2N DOUBLE JERSEY MACHINE: PATTERN SCOPE AND FEATURES. Singer-Supreme, Inc. Knitted Outerwear Times 30: 15 (Oct. 9, 1961). (5576)

DEVELOPMENTS IN AUTOMATIC FULL-FASHIONED MACHINES. E. Start (Wm. Cotton Ltd). Knitted Outerwear Times 30: 23-31 (Oct. 30, 1961).
Talk given at 6th Annual Conference International Federation of Knitting Specialists. (5577)

TERROT IM4/F INTERLOCK YARDGOODS MACHINE. C. Terrot Sohne. Knitted Outerwear Times 30: 17-19, 23, 61 (Oct. 9, 1961).
One of the most important features of the machine is the automatic 4-color striping unit which enables the machine to knit, in addition to plain horizontal stripes, numerous striping combinations, such as colored ripples on a plain background, Scottish tartan effects, and many eightlock fabrics. (5578)

REPAIRING YARN CHANGE LEVERS AT THE MACHINE. W. Shewmake. Textile Inds. 125: 139, 141 (Oct. 1961).
Yarn change levers on circular knitting machines can be repaired and adjusted by using a simple tool made in the mill shop. (5579)

UNIVERSAL FF AUTOMATIC NARROWING MACHINE. Universal Maschinenfabrik. Hosiery Times 34: 97, 112 (Sept. 1961). (5580)

PRACTICAL HINTS FOR KNITTERS. PART 12. SINKER WHEEL MACHINES. Hosiery Trade J. 68: 258-259 (Oct. 1961).
Pointers on cleaning, oiling, and overhauling. (5581)

MAYER SUPER RAPID II WARP KNITTING MACHINE. Karl Mayer GmbH. Knitted Outerwear Times 30: 33 (Oct. 9, 1961).
The most important improvement in the new model is the replacement of cam discs by a new type of crankshaft drive. (5582)

ANOTHER LOOK AT THE WARP-KNIT STOCKING. W. E. Shinn. Knitter 25: 31-34 (Sept. 1961).
In this examination of the commercial possibilities of warp knit hosiery, the author describes a stocking cut from warp knit fabric with a reinforced area oblique to the mesh (Ger. Pat. 738 162) and the adaptation of the Liba STK 27 tricot machine for warp knit hosiery. (5583)

YARN TANGLING ON KOMETS. K. O. Metz. Textile Inds. 125: 135, 137 (Oct. 1961).
An easily made attachment for the tension bracket that keeps yarn from looping around its parts is described. (5584)

EUROPEAN KNITTING DIARY. R. Innes. Hosiery Trade J. 68: 254-255 (Oct. 1961).
The developments described include the Torres twin-feed seamless hosiery machine and knotless raschel-knitted Perlon fish nets. (5585)

TECHNOLOGY OF CIRCULAR KNITTED YARDGOODS MANUFACTURE. J. Rab (Catalina, Inc.). Knitted Outerwear Times 30: 29-32, 85, 87 (Oct. 23, 1961).
Talk given at 6th Annual Conference International Federation Knitting Specialists. The manufacture of outerwear fabrics on machines with a single set of needles (fine cut spring needle, loop wheel, sinker top, and sliver knitting) and on machines with two sets of needles (bulk knit, interlock, fancy rib, and double jersey) is covered. (5586)

WOOL, COTTON, SYNTHETIC FIBER YARNS FOR DOUBLE KNITS. Knitted Outerwear Times 30: 15, 84 (Oct. 23, 1961).
Recommendations on yarn types and counts for knitting double jersey fabrics. (5587)

STUDY OF THE COMPARATIVE COMFORT PROPERTIES OF NYLON BULK-YARN KNITTED FABRICS WITH THOSE PREPARED FROM COTTON, WOOL, AND CONTINUOUS-FILAMENT MANMADE FIBER YARNS. E. R. Kaswell, L. Barish, and C. A. Lermond (Fabric Research Labs.). J. Textile Inst. 52: P508-P526 (Sept. 1961).
Paper presented at Textile Inst. Conf. on Bulked Yarns. Selected series of physical tests were conducted in the laboratory, which, it is believed, corroborate the opinion that bulked-yarn fabrics are, in fact, more comfortable than fabrics made from continuous-filament yarns. The following properties were studied: (1) physical characteristics, (2) surface characteristics (wet, dry, and under various pressures), (3) thermal conductivity, (4) softness and compressional resilience, (5) air-permeability, (6) moisture vapor transpiration rates, (7) water-absorption and wicking, (8) fabric drying rates. 31 refs. See also abstr. 3955/61. (5588)

FACTORS AFFECTING THE PROPERTIES OF PLAIN-KNITTED FABRICS KNITTED FROM BULKED AND STRETCH YARNS. D. L. Munden, J. J. F. Knapton, and C. D. Frith (Leeds Univ.). J. Textile Inst. 52: P488-P507 (Sept. 1961).
Paper presented at Textile Inst. Conf. on Bulked Yarns. The effects of yarn collapse properties and yarn tension on the dimensions and bulk of the knitted fabric after relaxation are described. A method of measurement of yarn collapse is described, and the collapse measured in this way is compared with that in the knitted fabric calculated from the degree of fabric collapse. 11 refs. (5589)

SOME OBSERVATIONS ON THE FABRIC GEOMETRY OF PLAIN, INTERLOCK, FULL-CARDIGAN, AND HALF-CARDIGAN STRUCTURES KNITTED FROM VARIOUS CRIMPED CONTINUOUS-FILAMENT YARNS. S. Fitton and J. C. Hopkinson (Hosiery & Allied Trades Research Assoc.). J. Textile Inst. 52: P471-P487 (Sept. 1961).
Paper presented at Textile Inst. Conf. on Bulked Yarns. (5590)

PREDICTION OF FABRIC CHARACTERISTICS OF LOCKNIT FABRICS IN TERMS OF RUN-IN LENGTH DURING KNITTING. P. Grosberg (Univ. Leeds). J. Textile Inst. 52: P526-P529 (Sept. 1961).
The purpose of the present paper (the results of which are based upon a geometrical study of the warp-knit loop structure) is to describe a simple graphical method whereby the courses per inch and wales per inch of the fabric in both the finished and relaxed states may be predicted from a knowledge of the run-in, gage of machine, and denier of the yarn. (5591)

CHANGES IN THE DIMENSIONS OF PLAIN-KNITTED WOOL FABRICS WITH VARIATION OF MOISTURE REGAIN. T. S. Nutting (Hosiery & Allied Trades Research Assoc.). J. Textile Inst. 52: T407-T415 (Sept. 1961).
Changes in area of a plain-knitted wool fabric as a result of changes in regain (rh movement) are shown to be dependent upon fabric stiffness and the previous treatments of the fabric. A suggested mechanism is also put forward to account for the shrinkage in area which occurs when a dry-relaxed fabric is placed in water. 5 refs. (5592)

MANUFACTURE OF JERSEY FABRICS. PART 1. J. B. Lancashire. Wool Rev. 35: 16-18 (Sept. 1961).
Double jersey fabrics producible on any type of interlock machine are described. (5593)

MANUFACTURE OF JERSEY FABRICS. PART 2. J. B. Lancashire. Wool Rev. 35: 16-18 (Oct. 1961).
The manufacture of various double jersey fabrics is described. (5594)

Fabrics C4

FABRIC STRUCTURE FOR BODY INSULATING PADS. Textile Weekly 61 (2): 709-710 (Sept. 29, 1961).
The Oyler-Trilok pads are woven from Saran and polythene monofilaments. They consist essentially of 3 fabric layers woven as one. Due to differential shrinkage values between the 2 yarns, the central layer shrinks after a heat treatment. The fabric thus attains 3 dimensions, the central layer forming tubes within the fabric which allow air to circulate freely within the fabric. (5595)

SPACE USES FOR TEXTILES. Daily News Record No. 204: 38, 39 (Oct. 19, 1961).
New space uses of textile materials are outlined, and their two major disadvantages (volatility in vacuum and degradation under radiation) noted. (5596)

THERMAL RADIATION RESISTANT FABRICS. G. T. Holmes (Can. Dept. Nat. Defense). Daily News Record No. 200: 2, 28 (Oct. 13, 1961).
Paper presented at 12th meeting of Can. Inst. Textile Science. Two-layer or double-cloth constructions are able to withstand two consecutive exposures to a thermal pulse of higher energy levels than can be withstood by a single cloth of similar weight and fiber composition. Addition of a stuffer material between two layers of a double-cloth results in considerable reduction in the rate of thermal deterioration. (5597)

STABLE NYLON CREPE FABRICS CONTAINING EP 1 FALSE TWIST CRIMPED WEFT YARNS. Brit. Nylon Spinners Ltd, Textile Develop. Dept. Advance Report No. 42. Aug. 1961. 2 p.
Two weaving constructions are described: the first for dress and blouse fabrics, and the second for lingerie fabrics. Recommendations for yarn pirning, weaving, and finishing are included. (5598)

LATEX IN THE TEXTILE INDUSTRY. J. M. Mitchell. Can. Textile J. 78: 53-60 (Oct. 13, 1961).
The techniques of emulsion polymerization and agglomeration for preparing synthetic latices, the types available, and textile applications are reviewed. 17 refs. (5599)

EVALUATION OF THE EFFECTS OF FABRIC STRUCTURE AND RESIN TREATMENT ON TEAR STRENGTH AND OTHER PROPERTIES OF COTTON FABRICS. E. J. Stavrakas and M. M. Platt. U.S. Agri. Research Service, Washington, D.C. Aug. 1961. 33 p. ARS 72-20.
This is the third and final progress report concerning the change in tear strength of cotton fabrics occasioned by wet finishing treatments in general and resin treatment in particular. For the two earlier reports, see abstr. 3544 (ARS 72-18) and abstr. 3519 (ARS 72-19). (5600)

HOW TO DESIGN AND LAY OUT MULTIPLE FABRICS. PART 4. E. B. Berry. Textile Bull. 87: 89-93 (Oct. 1961).
The special problems presented by 3- and 4-ply fabrics are reviewed. (5601)

WATER ABSORPTION OF COTTON FABRICS. N. S. Poroshin. Tekstil. Prom. 20, No. 8: 46-47 (1960). In Russian. Through BCIRA 41: 3131 (1961).
Samples of plain, twill, satin, compound, and double-faced fabrics were subjected to 100% humidity for 6 hr, weighed and dried at a temperature of 105-110° to constant weight and their moisture absorbability was determined. Results show that the moisture absorbability depends on the weave and weight of the fabric. (5602)

EFFECT OF A SYNTHETIC LUBRICANT AND TWO DIBASIC ACID ESTERS ON CERTAIN USAF FABRICS. C. D. Smith. Wright Air Development Center, Wright-Patterson Air Force Base, Ohio. Mar. 1954. 13 p. WADC technical report 54-12. Available from Office of Technical Services, Washington 25, D.C.
By diaphragm burst tests it was found that no damage was apparent in the fabrics used when exposed to synthetic lubricants. (5603)

FLAME BARRIER CHARACTERISTICS OF TEXTILE FIBERS. E. L. McLeod. Wright Air Development Div., Wright-Patterson Air Force Base, Ohio. July 1960. 36 p. WADD technical report 60-385. Available from Office of Technical Services, Washington 25, D.C. PB 171 136. $1.25.
Methods of sample preparation and testing were developed to determine the relative performance of various textile fibers as impedients to applied flame. Tests were conducted on randomly oriented compressed fiber pads. 5 refs. (5604)

RING SPINNING AS A SOURCE OF WEFT BARS IN CLOTH. W. Nutter and B. Whitehead. Textile Recorder 79: 102 (Oct. 1961).
It is shown that variations in yarn tension which occur in ring spinning due to changes in balloon length and winding on diameter can alter the character of the yarn to such an extent that bars or shading across certain types of fabric can be caused if the yarn is used as weft. (5605)

SPOT AND FIGURED FABRIC CONSTRUCTION. A. J. Bennett. Textile Mfr. 87: 406-407 (Oct. 1961).
The production of figured effects by the use of various coloring orders in warp and weft and by the introduction of weft or warp floats is described and illustrated. (5606)

DESIGN IN WOVEN STRUCTURE: IMITATION BACKED CLOTHS. D. C. Snowden. Wool Rev. 35: 15-16 (June 1961). (5607)

MACHINE-MADE CARPETS. Ciba Rev. No. 4: 2-35 (1961).
Comparison of traditional and tufted carpets, by P. Ellis, p. 2-5; Artistic design trends in machine-made carpet, by W. E. Phillips, p. 6-9; Technical developments in machine-made carpet production, by P. Ellis, p. 10-23; Tufted carpets, by P. Ellis, p. 24-35. (5608)

TRENDS AND DEVELOPMENTS IN TUFTED CARPETS. A. Crossland. Textile Recorder 79: 95-97 (Oct. 1961).
Recent progress in tufted carpet manufacture and current trends and future prospects are reviewed. (5609)

LAMINATES AND FOAMS FOR CARPETS. G. Brawner. Fibres and Plastics 23: 65-66, 72 (Mar. 1961).
Basic facts on composition, properties, and application of laminates and foams for carpet backings. (5610)

WOMEN'S SWEATERS. Consumer Repts. 26: 622-624 (Nov. 1961).
Laboratory tests of full-fashioned cardigan and slip-on sweaters in Orlon and nylon. (5611)

AN EVALUATION OF NEW FIBER BLENDS IN ARMY SUMMER UNIFORM FABRICS. C. J. Monego and S. J. Kennedy. U.S. Quartermaster Research & Eng. Center, Natick, Mass. May 1959. 65 p. Textile series report no. 108. Available from Office of Technical Services, Washington 25, D.C. PB 151 331. $2.00.
The results of this study showed that the 60/40 polyester/wool blend performed well in laboratory tests and ranked higher than the other fabrics in field tests. 16 refs. (5612)

MOTHERS' PREFERENCES AND BUYING PRACTICES FOR BOYS' SHIRTS, JEANS, AND SLACKS. L. Gilmore and M. L. Rosencranz. Ohio Agri. Experiment Station, Wooster, Ohio. Jan. 1961. 55 p. Research bull. 873. Free. (5613)

TOUGH TESTS FOR NEW FILTER FABRIC. Am. Machine & Foundry Co. Chem. Week 89: 127-132 (Oct. 14, 1961).
Fiberfilm, a new cartridge filter material, is designed for high-temperature, corrosive service. The new filter media is a nonwoven, ultrafine glass fiber impregnated with silicone resins. The competition it faces from such recent products as Carborundum Co.'s Fiberfrax, Nat. Carbon Co.'s graphite, AMF's quartz, Teflon-impregnated Fiberfilm, and Teflon-reinforced woven glass (Amfab) is discussed. (5614)

DALTOFLEX FOAM LAMINATING SYSTEM. Imp. Chem. Inds. Ltd. Man-Made Textiles 38: 87-90 (Sept. 1961).
See also abstr. 3965/61. (5615)

HOW FOAM CAME TO FASHION. G. W. Stevens (Textile Laminations Ltd). Textile Merc. 145: 410-412 (Sept. 29, 1961).
The development work which led up to the successful commercial application of the foaming technique to fabric manufacture is described. (5616)

FOAM LAMINATED FABRICS. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Oct. 1961. 2 p. Bull. NP-25. Free. (5617)

SUGGESTIONS FOR SEWING FOAM-LAMINATED NYLON FABRICS. Brit. Nylon Spinners Ltd, Textile Develop. Dept. Advance Report No. 44. Aug. 1961. 2 p. (5618)

TODAY'S NYLON YARNS AND FABRICS IN INDUSTRIAL APPLICATIONS. A. R. Szewczyk (Du Pont of Canada Ltd). Can. Textile J. 78: 31-35 (Sept. 29, 1961).
The general properties of industrial nylon yarns are compared with those of competitive fibers, and the end-uses of nylon in tire cord, belting, and coated fabrics are related to the yarn properties. (5619)

TERYLENE IN NONWOVEN FABRICS. W. Glen. Skinner's Silk & Rayon Record 35: 959, 961 (Oct. 1961).
The advantages of nonwoven fabrics containing Terylene for use in a range of applications including interlinings, laminate reinforcement, base for coated fabrics, filtration, and electrical insulation are cited. (5620)

FIBER USE TRENDS IN CONVEYOR BELTING. Daily News Record No. 204: 35 (Oct. 19, 1961).
Cotton and rayon continue to be the standard fabrics for a wide variety of conveyor belts. Cotton still accounts for more than half the poundage of the fabric used and its dominance is expected to continue despite inroads being made by synthetic fibers for particular applications. (5621)

COMEZ LACE MACHINE. Virginio Rimoldi & Co. SpA. Textile Weekly 61 (2): 655-656 (Sept. 22, 1961).
The machine produces full-width and narrow trimming laces, as well as elastic laces and narrow elastic. The machine operation is described, and examples of laces are illustrated. (5622)

STRESS DISTRIBUTION IN THE RESIN OF REINFORCED PLASTICS. J. O. Outwater and D. C. West. Modern Plastics 39: 154-157, 250-252 (Sept. 1961).
Stresses in epoxy resin surrounded by touching glass filaments were examined by photoelastic techniques. The glass surface is under severe tension, resulting from the thermal shrinkage of the resin in an unyielding glass surround. This tension can be totally relieved by destroying the adhesive bond between the resin and the glass, and this tension can be markedly increased by postcuring. (5623)

THERMAL PROPERTIES OF REINFORCED PLASTICS. P. T. Howse, Jr. and C. D. Pears. Modern Plastics 39: 140-153, 246-248 (Sept. 1961).
Data are presented on specific heat, thermal expansion, and thermal conductivity for 12 different resin-reinforcement combinations and one foam core over the temperature range -50 to 700° F. Specific heat is about constant with temperature and seems to be influenced more by the reinforcement materials than any other single parameter. The expansion coefficient was influenced primarily by both the overall composition and the orientation of the reinforcing fibers. The thermal conductivity of a material increases with temperature to a critical temperature and is influenced by production methods and reinforcement orientation, as well as composition. (5624)

NONWOVENS: MATERIALS, METHODS, MARKETING. PART 1. MARKETS AND HOW TO SELL THEM. J. W. Howden (James W. Howden Co.). Textile Inds. 125: 53-61, 64 (Oct. 1961).
The principal factors involved in the marketing of nonwovens for new product and for displacement end uses are discussed. A listing of several hundred products currently in use, or being tested for use, which utilize nonwoven bonded fabrics and batting as primary constituents is included, together with a notation on the type of bonding method involved in their manufacture. (5625)

IBETEXT NONWOVEN TEXTILE MATERIAL. E. Rossin. Industria Textila 12, No. 3: 98-101 (1961). In Rumanian. Through BCIRA 41: 2984 (1961).
This nonwoven fabric, produced in a Rumanian factory by bonding several layers of a weblike material, can be used for furnishing and decorative purposes. (5626)

COTTON VERSUS SYNTHETIC FIBERS IN PAPERMAKERS FELTS. Daily News Record No. 204: 34 (Oct. 19, 1961).
The past advantage of cotton in wet felt manufacture was its resistance to alkali. Since nylon and Dacron offer the same type of resistance in addition to higher strength and resistance to bacterial and mildew attack, they offer increasing competition. (5627)

FUTURE OF NONWOVENS AS RELATED TO PROGRESS IN BINDER DEVELOPMENTS. Fibres and Plastics 23: 82-83 (Mar. 1961).
The economic outlook for nonwoven fabrics is controlled largely by technical developments in two areas: mechanical methods of building up the fabric from fiber and binder; and the chemical nature of the binder. In both fields, research work now underway promises major progress during the next few years. (5628)

SPUN BONDED MATERIALS. E. I. du Pont de Nemours & Co. Daily News Record No. 192: 1, 28 (Oct. 3, 1961).
The spun bonded structures, although similar in some respects to nonwoven fabrics, involve a new technology which is integrated with the manufacture of synthetic fibers, and possess unique tensile and tear properties. (5629)

PAPERS FROM NONCELLULOSIC FIBERS. R. S. Lenk (Bowater Research & Develop. Co. Ltd). Chem. & Ind. No. 41: 1651-1656 (Oct. 14, 1961). 48 refs. (5630)

PRESS FELTS AND WATER REMOVAL. PART 1. DYNAMICS OF WATER REMOVAL. D. B. Wicker (Huyck Felt Co.). Paper Trade J. 145: 40-42 (Oct. 16, 1961). (5631)

PRESS FELTS AND WATER REMOVAL. PART 2. A NEW THEORY OF PRESS NIP DYNAMICS. D. B. Wicker (Huyck Felt Co.). Paper Trade J. 145: 33-35 (Oct. 23, 1961).
5 refs. (5632)

ULTRAVIOLET RADIATION RESISTANT MATERIALS FOR DECELERATION. J. C. McGrath (U.S. Air Force Materials Central). Wright-Patterson Air Force Base, Ohio, Wright Air Development Division. Dec. 1960. 28 p. WADD technical note 60-253. Available from Office of Technical Services, Washington 25, D.C. AD 258 595. $1.00.
Weathering and heat exposure tests on fabrics woven from 2 new types of nylon yarn are reported. Results indicate that undyed fabrics woven from the ultraviolet and heat resistant yarn retains a high percent of strength under the test conditions. (5633)

QUALITY CONTROL IN WOVEN STRETCH FABRICS. B. L. Hathorne (Sedgefield Labs.). Textile Bull. 87: 41-44 (Oct. 1961).
In stretch filling fabrics, the factors relating to fabric quality include warp twist, warp size, warp tension, selvage construction, quilling tension, shuttle tension, and latent torque release. The quality problem in stretch warp fabrics, on the other hand, is the production and maintenance of uniform stretch and shrinkage from piece to piece. Stretch and shrinkage variations in the latter as affected by warp tension and dyeing and finishing variations are discussed. (5634)

PRODUCING BEDSPREADS WOVEN ON TERRY PRINCIPLES. T. Hargreaves. Textile Mfr. 87: 393-396 (Oct. 1961).
Designing, card-cutting, drawing-in, and weaving particulars for colonial or heirloom bedspreads are given. (5635)

ULTRASONIC SEAM METHOD FOR SYNTHETICS. Powertron Ultrasonics Corp. Daily News Record No. 201: 32 (Oct. 16, 1961). (5636)

FABRICATION OF DRESSES, BLOUSES, AND SPORTSWEAR FROM FABRICS CONTAINING EITHER DACRON, ORLON, OR DU PONT NYLON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Oct. 1961. 7 p. Bull. X-144 (replaces Bull. X-86). Free. (5637)

REVIEW OF DEVELOPMENTS IN SEWING AND SEAMING MACHINERY, 1956-61. W. O'Brien. Hosiery Times 34: 53-55, 99 (Sept. 1961). (5638)

FINISHING D

DYEING AND FINISHING DEVELOPMENTS FOR KNITWEAR, 1956-61. A. J. Hall. Hosiery Times 34: 62-65, 99 (Sept. 1961). (5639)

DYEING AND FINISHING FABRICS CONTAINING DACRON TYPE 35. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Sept. 1961. 4 p. Bull. D-139. Free.
Information on dyeing and finishing Dacron 35/cellulose blends is given, with particular emphasis on the modifications that must be made as compared with the techniques used with fabrics containing Dacron 54. (5640)

PRINTING AND FINISHING FABRIC OF DACRON POLYESTER STAPLE. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Oct. 1961. 12 p. Bull. D-140 (replaces Bull. D-128). Free. (5641)

RECENT PROGRESS IN DYEING AND FINISHING TECHNIQUES. B. C. M. Dorset. Textile Mfr. 87: 419-424 (Oct. 1961).
Among the developments discussed are: winch dyeing machine for acetate fabrics (BP 864 092); amidophosphoric acid esters as antistatic agents for polyamide and polyester fibers; black diazo dyes for triacetate fibers (BP 867 203); compressive shrinkage machine with simplified belt replacement (BP 863 879); new polyester fibers with high melting points and heat stability (BP 863 704); divinyl sulfone cross-linking agents; and self-coupling diazo dyes for polyester fibers (BP 863 329). (5642)

FINISHING CRIMP YARNS IN A CONVENTIONAL WAY, ECONOMICAL METHOD. H. Dittrich. Wirkerei-u. Strickerei-Technik 11, No. 1: 29-33 (1961). In German. Through J. Textile Inst. 52: A506 (1961).
A continuous process for the washing, high-temperature dyeing and finishing of crimp yarns has recently been developed. With the aid of photographs and diagrams, the author gives detailed information on this method and its advantages for the textile industry. The outstanding feature of this process is that the yarn is wound on to a slit bobbin. (5643)

WOOLENS AND WORSTEDS: FINISHING WHITES. W. Kirby. Fibre and Fabric 114: 4-5 (Oct. 1961). (5644)

MECHANICS OF A QUALITY CONTROL PROGRAM IN A FINISHING PLANT. R. L. Wilson (Kendall Co.). Textile Bull. 87: 72-78 (Oct. 1961).
The methods used at the Bethune, South Carolina plant of the Kendall Co. are discussed under: acceptance sampling; in-process control; final inspection; and other practices. (5645)

AUTOMATION OF EXISTING DYEING AND BLEACHING INSTALLATIONS BY MEANS OF THE JAGRI-COMAT SYSTEM. Melliand Textilber. 42, No. 6: 670-671 (1961). In German. Summary in BCIRA 41: 2996 (1961). (5646)

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FINISHING OF KNITTED YARN GOODS DESTINED FOR LAMINATING WITH POLYURETHANE FOAM. H. B. Goldstein (Sun Chem. Corp.). Man-Made Textiles 38: 85-88 (Oct. 1961).
See abstr. 2497/61. (5647)

MEASURING AND REGULATING TECHNIQUES IN WET FINISHING OF TEXTILES. W. Hoffmann. Z. ges. Textil-Ind. 63, No. 5: 362-367 (1961). In German. Through BCIRA 41: 2998 (1961).
Measuring and control devices used for temperature, pressure, pH-values, and redox potentials in textile finishing processes are reviewed. (5648)

SAFE HANDLING OF CHEMICALS USED BY THE TEXTILE AND RELATED INDUSTRIES. PART 2. K. H. Ferber (Allied Chem. Corp.). Dyestuffs 44: 80-100 (Sept. 1961). (5649)

BLEACHING OF COTTON. PART 1. PRECLEANING AND BLEACHING METHODS. PART 2. PRACTICAL EXECUTION OF PRECLEANING AND BLEACHING OF COTTON. W. Grunwald. Z. ges. Textil-Ind. 63, No. 4: 285-291; No. 5: 368-373; No. 6: 489-492; No. 7: 554-559 (1961). In German. Through BCIRA 41: 2993 (1961).
This is a review of literature referring to kiering and boiling off; sodium hypochlorite, hydrogen peroxide or sodium peroxide and sodium chlorite bleaching; reducing bleaching agents; optical brighteners; softeners; discontinuous bleaching methods; desizing; bleaching of coloreds; and continuous bleaching installations for rope- and open-width bleaching. (5650)

CONTROLLED REPRODUCTION OF BLEACHED SAMPLES. A. Kling and J. Kurz. Textil-Rundschau 16, No. 5: 253-258 (1961). In German. Through BCIRA 41: 2995 (1961).
A method for the reproduction of bleached samples by measuring the reflectance and the emission effects separately is described. (5651)

LITHIUM HYPOCHLORITE BLEACHES. R. B. Ellestad (Lithium Corp.). Soap Chem. Specialties 37: 77-79, 122-123 (Sept. 1961).
Lithium hypochlorite based dry laundry bleach combines the effectiveness of sodium hypochlorite with ease of formulation, convenience in use, and absence of bulk. The bleaching characteristics of lithium hypochlorite as compared with those of sodium hypochlorite and of a typical chlorinated isocyanuric bleach are summarized. (5652)

SPEROTTO CONTINUOUS DECATIZING SYSTEM. G. Dowling. Textile Merc. 145: 418-421 (Sept. 29, 1961).
Following a description of the process stages involved in decating and the conventional methods used, the features and operation of the Sperotto machine are described. Two models are available: CTN/MG, designed for circular knitted wool, cotton, and mixed fabrics; CTN/DR, designed for heavy duty and complete versatility on all fabrics. (5653)

EVALUATION OF VARIABLES IN THE PRESSURE-KIER BLEACHING OF COTTON. J. J. Gaido and H. D. Terhune (E. I. du Pont de Nemours & Co.). Am. Dyestuff Reptr. 50: 792-795, 801 (Oct. 16, 1961).
Field trials have shown that it is practical to reduce the time required for the kier bleaching of cotton with hydrogen peroxide by using steam pressure to obtain faster, higher-temperature bleaching. A statistically designed set of 35 laboratory experiments was used to define the optimum operating conditions for a single-stage pressure-kier bleaching process. Computer analysis of the laboratory data showed that these higher temperatures (220° -250° F) accelerated bleaching with no adverse effect on fabric whiteness or fluidity. Statistically devised graphs are used to illustrate the direct relationship between operating variables and bleaching results. (5654)

RELATIONSHIPS BETWEEN CONSTITUTION AND ACCUMULATION OF BRIGHTENERS IN WASHING PROCESSES WITH ANIONIC AND NONIONIC DETERGENTS. H. Häusermann and R. Keller. Textil-Rundschau 16, No. 4: 176-180 (1961). In German. Through BCIRA 41: 3139 (1961).
Cellulose brighteners of the type of 1,3,5-triazinyl derivatives of 4,4'-diamino-stilbene-2,2'-disulfonic acids were examined as regards their ability to accumulate in washing processes with anionic and nonionic detergents, and it was found that this ability depends upon the polarity of the triazine substituents; polar groups improve and nonpolar residues reduce it. Water-insoluble brighteners used for synthetic fibers are comparable to substantive dyes, being like the latter adsorbed on the fiber surface. Accumulation of these brighteners is greater in nonionic than in anionic washing liquors. (5655)

CHELATING AGENTS IN PAPERMAKING. A. J. Gard (Chelate Chem. Corp.). Tappi 44: 162A-165A (Oct. 1961).
Chelation is analogous to the titration of an acid by a base; the metal ion is considered an acid and the chelating agent a base. The chemistry of the reaction is given. Its application to pitch control is mentioned, and some data are given on the use of a chelating agent in bleaching in the prevention of color reversion. (5656)

PRACTICAL POSSIBILITIES WITH OPTICAL DYEING. G. Rordorf. 5 p. Art. 6,010, 6/4, vers. 1. Available from Intern. Textile Serv., Zurich 48, Switzerland. Free.
The theory and practice of optical bleaching is briefly reviewed. (5657)

FABRIC COATING. S. Converse. Canvas Products Rev. 37: 28, 54-55 (Nov. 1961).
Methods of coating fabrics are briefly surveyed. (5658)

ARMALON FABRICS FOR ELECTRICAL USES. Daily News Record No. 199: 24 (Oct. 12, 1961).
Armalon fabrics (glass fabrics coated with TFE fluorocarbon resin) have a power factor of less than 0.255 over the entire spectrum of 60 to 1,000,000 cycles and show good arc resistance. The solvent and chemical resistance of the fabrics are noted. (5659)

CROSS-LINKS CRIMP AND COIL NYLON 6 FIBER. Chem. Eng. News 39: 50-51 (Oct. 23, 1961).
Treating nylon 6 fiber with a swelling agent and inserting disulfide and alkylene sulfide cross-links give unexpected deformations. (5660)

ZIMMER ROLLER COATING PROCESS. H. Krantzik. Melliand Textilber. 42, No. 5: 560-561 (1961). In German. Summary in BCIRA 41: 3057 (1961). (5661)

SPANDEX TYPE FABRIC COATING. Kendall Co. Daily News Record No. 204: 2, 47 (Oct. 19, 1961).
Raw polyurethane is deposited so that the particles are incompletely coalesced. This results in an infinite number of pores giving a non-skid, coated stretch fabric. (5662)

CURRENT ENZYMATIC DESIZING TECHNIQUES. PART 2. LABORATORY WORK ON ENZYMES. J. A. D. Hall (Norman Evans & Rais Ltd). Dyer 126: 295-299 (Sept. 8, 1961).
The various laboratory methods that are used to assess desizing enzymes, both on a quantitative and qualitative basis, and their reliance are described. Some results of recent investigations into various additions to the desizing bath, such as wetting agents and calcium salts, are also noted. For previous article see abstr. 3561/61. (5663)

EMBOSSED FABRIC FINISHES: EMBOSSING CALENDERS AND BOWLS. R. A. Peel. Dyer 126: 395-398 (Sept. 22, 1961).
Pointers on the design and operation of embossing calenders and bowls to serve as an aid to the apprentice dyer. See also abstr. 2484/61. (5664)

PNEUMATIC PRESSURE CONTROL ON MILLING AND SCOURING MACHINES. H. Lorenz. Wool Rev. 35: 21 (Oct. 1961). (5665)

ANTIFUNGAL ACTIVITY OF SOME THIOSEMICARBAZONES AND THEIR COPPER COMPLEXES. B. G. Benns, B. A. Gingras, and C. H. Bayley. Appl. Microbiol. 8, No. 6: 353-356 (1960). Summary in BCIRA 41: 3149 (1961). (5666)

STERILIZATION OF HOSPITAL WOOL BLANKETS. PART 1. Wool Sci. Rev. No. 19: 46-63 (June 1961).
Part 1 deals with the possible role of blankets as spreaders of infection and with methods of disinfecting woolen hospital blankets in low temperature laundering. 14 refs. (5667)

SYNDET OR SOAP FOR ELASTIC FABRIC. D. Brockway, F. T. Hall, and D. J. Smith. J. Home Econ. 53: 763-765 (Nov. 1961).
The data from this and the former study show no evidence that synthetic detergents are more harmful than soap to elastic fabrics. They even suggest that unless sodium hexametaphosphate or some other sequestering agent is used with soap that soap may cause more shrinkage than synthetic detergents. 4 refs. (5668)

FORCES IN DETERGENCY. J. C. Harris (Monsanto Chem. Co.). Soap Chem. Specialties 37: 61-64 (Sept. 1961).
The calculation of works of adhesion, cohesion, spreading, and immersion and their application in determining energy conditions in detergent systems are explained. (5669)

THAT TATTLETALE GRAY. W. H. Burrows. Research Engr. 16: 7-11 (June 1961).
In this brief description of the development of modern types of detergents from the early soaps, the respective contributions of surface active agents, builders, and other additives to detergency are explained. (5670)

ADSORPTION OF CALCIUM AND POLYPHOSPHATES ON COTTON CELLULOSE AND ITS EFFECT ON SOIL DEPOSITION. B. J. Rutkowski and A. R. Martin (Whirlpool Corp. Research Labs.). Textile Research J. 31: 892-898 (Oct. 1961).
The importance of polyphosphates as detergent builders seems to lie in their abilities as sequestrants and in their influence on electrokinetic phenomena occurring in the washing process. The present study was initiated to study these properties of polyphosphate builders. Radiochemical methods were employed to trace polyphosphate and calcium reactions with cotton at various calcium to polyphosphate ratios. Cotton does not adsorb polyphosphate in the absence of polyvalent metal ions. The amount of calcium and polyphosphate adsorbed by, or deposited on, cotton during a 10 min wash in hard water is dependent on the calcium-polyphosphate phase present. Deposition of clay soil on cotton is not influenced by the presence of insoluble calcium-polyphosphate salts. However, there appears to be a direct relationship between soil deposition and number of unsequestered or unprecipitated calcium ions remaining in the wash solution. Tetrasodium pyrophosphate is relatively more efficient in achieving minimum soil deposition than sodium tripolyphosphate. 8 refs. (5671)

CHEMISTRY AND TEXTILES FOR THE LAUNDRY INDUSTRY. H. Cohen and G. E. Linton. Textile Book Publishers, Inc., N.Y. 1961. 429 p. $15.00.
Contents: Water; Alkalies; Soap; Synthetic detergents; Bleaches; Lime soap and phosphates; CMC--carboxymethylcellulose; Iron; Bluing; Starches; Sours (acids); Spot and stain removal; Laundering of radioactively contaminated fabrics; Laundry testing by chemical methods; Standards used in the laundry industry; The National Institute of Drycleaning; Drycleaning; Spot and stain removal in drycleaning; Organizations in the laundry industry; Major textile fibers; Cotton; Fabrics used in the laundry industry; Flax (linen), ramie, jute, hemp; Properties of the major man-made fibers; Wool, silk, and feathers; Dyeing of textiles; Textile testing; Rug cleaning; Causes of defects in fabrics and garments; Selected list of reference books. (5672)

SUPPLEMENTATION OF THE STUDY OF THE ACTION OF SOME SALTS IN MERCERIZING SOLUTIONS. G. Turcu and A. Avachian. Industria Textila 12, No. 4: 147-149 (1961). In Rumanian. Through BCIRA 41: 3048 (1961).
The purpose of this article is to show a modified method for measuring the contraction of cotton yarns in mercerizing liquors and to explain anomalies in the contraction curves not explained in a previous paper (abstr. 1549/61). (5673)

PROOFING OF FLAX CANVAS AND COTTON DUCK. D. Morrow (Davies, Coop & Co. Ltd). Textile J. Australia 36: 883-889 (July 20, 1961).
Finishes and tests for waterproofing, rotproofing, flameproofing, and weathering resistance are reviewed. (5674)

TOPANE ROTPROOFING TREATMENT. Imp. Chem. Inds. Ltd. Textile Weekly 61 (2): 589-591 (Sept. 15, 1961).
Topane (soluble form of ortho phenylphenol) is claimed to be an effective preservative for a wide variety of industrial textiles and ropes. Recommended applications are noted, and results of tests on cotton, jute, and wool fabrics and ropes and on fish nets are tabulated. (5675)

MODERN SHRINK-RESIST FINISHES FOR WOOL. A. N. Davidson. Textile Mfr. 87: 369-371 (Sept. 1961). (5676)

PERMANENT ROTPROOFING OF CELLULOSIC FIBERS BY THE WET FIXATION OF RESIN PRECONDENSATES. A. Ruperti (Ciba Ltd). Am. Dyestuff Reptr. 50: 762-765 (Oct. 2, 1961).
This paper reports on the present status of cotton conservation by a wet fixation process using Arigal C, a water-insoluble condensation resin. This process is said to offer insolubilization of resin within the fiber by wet fixation with no adverse effect on fiber properties. The principle of the process is discussed and the properties of cotton treated with a condensation resin are described. The possibility of providing cotton fibers with a highly durable protection against surface mildew growth by adding a suitable organic mercury compound to this finish is illustrated. 5 refs. (5677)

INVESTIGATIONS OF FABRIC SHRINKAGE ON THE HOFFMAN PRESS. Wool Sci. Rev. No. 19: 33-45 (June 1961).
The method of pressing on the Hoffman press was studied, particularly in relation to the moisture behavior and dimensional change of certain worsted fabrics, using a steam supply at various pressures and various combinations of steaming and vacuuming times. 8 refs. (5678)

BASIC PRINCIPLES UNDERLYING SHRINKPROOFING OF WOOL. F. H. Steiger (Personal Prods. Corp.). Knitted Outerwear Times 30: 9-11 (Oct. 23, 1961). (5679)

AUTOMATION GIVES SIZE PREPARATION FLEXIBILITY WITH POSITIVE CONTROL. W. G. Farin. Paper Trade J. 145: 34-37 (Oct. 30, 1961).
Detailed recommendations on design considerations and controls necessary to maintain quality and uniformity in size preparation systems for paper or board machines. (5680)

HISTORY OF SURFACE ACTIVE SUBSTANCES AND THEIR RELATION TO DYEING. PART 3. G. Koudela and H. G. Wagner. Z. ges. Textil-Ind. 63, No. 5: 348-352 (1961). In German. Through BCIRA 41: 3000 (1961).
Surface active substances produced by the German manufacturers of textile assistants during the period between the two World Wars, are reviewed (from sulfonated oils, as a further development of Turkey Red oil, to numerous anionic, cationic, and nonionic products used at present in finishing and dyeing. (5681)

ALUMINUM STABILIZES COLLOIDAL SILICA. Chem. Eng. News 39: 69 (Oct. 2, 1961).
The usable range of colloidal silicas has been increased by the partial substitution of aluminum for silica on the surface of the silica spheres. Ludox AM, the alumina-modified silica sol, is stable from pH 2 through 10. (5682)

INFRARED CONDENSATION OF DIMETHYLOLUREA/CATALYST MIXTURES. W. Vauck. Melliand Textilber. 42, No. 6: 690-696 (1961). In German. Through BCIRA 41: 3050 (1961).
After some theoretical considerations referring to infrared-radiation condensation, the author describes experimental results which confirm the theoretical findings. (5683)

TESTS ON WATER REPELLENTS. Nat. Inst. Drycleaning, Silver Spring, Md. Sept. 1961. 4 p. T-395.
The spray ratings of various commercial water repellents applied after drycleaning are tabulated. (5684)

SCIENTIFIC TREATMENT OF COTTON DUCK. L. Bram. Textile J. Australia 36: 818-819 (July 20, 1961).
Methods of waterproofing cotton duck currently used in Australia are briefly summarized. (5685)

WHAT NEW CHEMICAL COTTONS WILL COST. K. M. Decossas, S. P. Koltun, and E. L. Patton (So. Reg. Research Lab.). Textile Inds. 125: 101-115 (Oct. 1961).
A number of chemical cottons have been prepared by padding of fabric with chemicals, drying and curing at elevated temperatures, washing the cotton free of unreacted chemicals and byproducts, and final drying of the product. Equipment costs and operating costs obtained during cotton chemical process evaluations, have been classified, plotted, and presented for quick reference and use. An illustrative application of the charts results in no significant change in estimated equipment, total plant, and processing costs for the APO-THPC flame retardant finish for cotton fabric. A sliding scale factor is suggested for open-width cotton chemical processing equipment in place of the six-tenths factor generally used in chemical engineering cost estimation. 23 refs. (5686)

NEW METHODS FOR THE PREPARATION OF ALKALI-SOLUBLE TEXTILE MATERIALS. R. M. Reinhardt, T. W. Fenner, and J. D. Reid (So. Reg. Research Lab.). Am. Dyestuff Reptr. 50: 694-701 (Sept. 18, 1961).
Etherification of cotton to a low degree of substitution followed by a comparatively mild treatment with cellulose oxidizing and/or hydrolyzing reagents yields fibrous products which are alkali-soluble but which retain a substantial proportion of the original textile properties of the cotton fiber. Partially etherified cottons which have been used in this study include aminoethylated, carbomoylethylated, carboxyethylated, carboxymethylated, cyanoethylated, hydroxyethylated, methylated, alpha-methylcarboxymethylated, and phosphonomethylated cotton. For the oxidation-hydrolysis step, chromic acid, chromic acid-oxalic acid mixture, periodic acid, nitrogen dioxide, sodium nitrite-mineral acid mixture, nitric acid, sulfuric acid, hydrochloric acid, sodium hypochlorite, and potassium permanganate treatments have been investigated. 30 refs. (5687)

CYANOETHYLATION OF COTTON. H. Friedrich. Melliand Textilber. 42, No. 6: 657-662 (1961). In German. Through BCIRA 41: 3062 (1961).
Cyanoethylation processes for loose material and yarn (2-bath method, single-bath method, and 2-bath method with salt addition) and for piece goods (impregnation method) are reviewed, and the effects of various factors (fibrous material, alkali, moisture content of the material, properties of acrylonitrile, temperature and time, liquor ratio and formation of oxydipropionitrile) and the properties of the cyanoethylated cotton are discussed. (5688)

REPORT ON THE PROBLEM OF STORAGE OF CREASEPROOFED COTTON. P. Moruzzi. Tinctoria 48, No. 5: 185-188 (1961). In Italian. Through BCIRA 41: 3055 (1961).
The two problems discussed comprise: the development of formaldehyde vapors during storage of resin-treated fabrics (due to the presence of catalyst residues), and the changes in wash-and-wear properties in fabrics stored without having been washed after the finishing treatment. Methods of testing the wash-and-wear properties are briefly reviewed, and reference is made in particular to the scorch tester. (5689)

CROSS-LINKING ETHERIFIED COTTONS WITH DIMETHYLOL ETHYLENEUREA. R. M. H. Kullman, J. G. Frick, Jr., R. M. Reinhardt, and J. D. Reid (So. Reg. Research Lab.). Textile Research J. 31: 877-885 (Oct. 1961).

The effects of cross-linking with dimethylol ethyleneurea (DMEU) on several etherified cotton fabrics--carboxymethylated, hydroxyethylated, methylated, and cyanoethylated cottons--were studied and compared with its effects on unmodified cotton. The effect of replacing cellulosic hydroxyl groups on the reactivity toward DMEU is dependent on the nature of the substituent and the swellability of the etherified fiber. Hydroxyethylated and methylated cottons exhibit greater cross-linking efficiency with DMEU than does unmodified cotton. High moisture regain in conjunction with high wet and conditioned wrinkle recovery is possible with hydroxyethylated cotton. Increased extensibility observed in etherified cottons is directly related to the alkali concentration used in the etherifying reaction. The rate of strength loss on cross-linking, with unit improvement in crease recovery, is greater for etherified cottons, except hydroxyethylated, than for unmodified cotton. 15 refs. (5690)

HYDROXYETHYLATED COTTON LINTERS WITH LOW LEVELS OF SUBSTITUTION. R. H. Gillespie, M. Mueller, H. Swenson, and K. Ward, Jr. Tappi 44: 662-669 (Sept. 1961).

When cotton linters are hydroxyethylated to low levels of substitution, their insoluble, fibrous form is retained, but their physical and chemical properties are changed. To determine how and to what extent these changes occur, cotton linters were hydroxyethylated by basic catalysis under widely different conditions. The products were characterized as to substitution level, solubility in solutions of alkali, and by x-ray diffraction. The results show how cellulosic fibers may be modified by hydroxyethylation to provide improved properties that should prove useful in the papermaking and textile fields. 14 refs. (5691)

PREPARATION AND PROPERTIES OF FIBROUS PARTIAL ISOBUTYRATES OF CELLULOSE. H. H. St. Mard, C. Hamalainen, and A. S. Cooper, Jr. (So. Reg. Research Lab.). Am. Dyestuff Reptr. 50: 796-800 (Oct. 16, 1961).

Cotton cellulose in the form of yarn and fabric has been partially esterified with isobutyric anhydride with retention of the fibrous structure and the textile characteristics of cotton. The process involves activating the cotton, removal of the activating agent, and heating with the anhydride in a diluent containing potassium isobutyrate as the catalyst. The products have excellent strength retention, have rot and heat resistance essentially equal to that of partially acetylated (PA) cotton, and show no appreciable loss in tear and abrasion resistance. However, they have poor resistance to outdoor weathering, which seems to be common to most fibrous esterified cottons. 8 refs. (5692)

MECHANISM OF RESIN DEPOSITION IN CELLULOSIC FIBERS. H. Rath and E. Herbolsheimer. Z. ges. Textil-Ind. 63, No. 5: 334-339 (1961). In German. Through BCIRA 41: 3051 (1961).

Studies of the relationship between roller pressure and the anticreasing effect during padding and comparison of the resin localization and distribution in, and abrasion-resistance of, fabrics sprayed and padded, respectively, with the resin precondensate solution indicate that the precondensate, present after application mainly in the capillaries between the fibers, penetrates during the drying process into the fiber. The deposition takes place independently of the application method. (5693)

SOME PROPERTIES OF COTTON FABRICS CONTAINING DEPOSITS OF VINYL POLYMERS. A. G. Chitale and A. Y. Kulkarni (Ahmedabad Textile Ind. Research Assoc.). J. Sci. Ind. Research (India) 20D: 223-225 (June 1961).

Using potassium persulfate as an initiator, the effect of depositing, by internal polymerization, polystyrene, polymethyl methacrylate, and polyacrylonitrile inside cotton fabrics, on the properties of the resulting fabrics was investigated. The tensile strength and crease recovery properties remained unaffected, while tear strength and resistance to flex abrasion deteriorated. On calendering the fabrics became stiff and glossy, but on soaking in water only those treated with polyacrylonitrile retained most of the stiffness and some gloss. Deposits of polyacrylonitrile were more stable to repeated laundering than deposits of other polymers. 6 refs. (5694)

BEHAVIOR OF RESIN FINISHED FABRICS DURING CHLORINE TREATMENT. H. A. Wannow. Z. ges. Textil-Ind. 63, No. 5: 340-345 (1961). In German. Through BCIRA 41: 3056 (1961).

Methods and experiments for determining fiber tendering by bound chlorine (chloramine formation with nitrogen-containing resins) are described, and it is shown that the yellowing occurring during heating (scorch test) of the resin finished fabric, accompanied by fiber tendering, depends not only upon the type of resin and the application conditions but also upon the fabric itself. Small amounts of alkali retained by the fabric after mercerization or scouring can inhibit the condensation of the resin formers and, consequently, increase chlorine retention. This can be avoided by acidifying the fabrics before finishing with strong inorganic acids, e.g. hydrochloric acid. (5695)

ALKYL KETENE DIMER AS ASSISTANT IN RESIN TREATMENT OF CELLULOSIC FABRICS. I. Imai, K. Takahashi, S. Nishikawa, and K. Funayama. J. Soc. Textile Cellulose Inds. Japan 17, No. 6: 537-546 (1961). In Japanese (English summary). Through BCIRA 41: 3052 (1961).

Different alkyl ketene dimers were supplied, with dimethylol ethylene urea to cotton, and with monomethylol urea to viscose rayon staple fabrics. Increased retained strength, improved crease recovery, and, with C_{10} and higher alkyl groups, good water repellency are obtained. With cotton it is believed that the dimer reacts chemically with the cellulose and does not interrupt the cross-linking. (5696)

EFFECT OF SOFTENERS ON THERMOPLASTIC RESINS. F. Magnussen. Daily News Record No. 191: 26 (Oct. 2, 1961).

Paper presented at 40th AATCC meeting. Results of tests on the sewing and stiffness properties of resin finished fabrics indicate that the softener governs the properties rather than the resin. (5697)

IRONING OUT WASH-AND-WEAR WRINKLES. Chem. Week 89: 47-50 (Sept. 23, 1961).

Brief survey of current research efforts to develop economical wash-and-wear finishes for natural fibers without undesirable side effects. (5698)

OPTICAL WHITENER USEFUL BEFORE AND WITH CROSS-LINKING. R. M. Reinhardt and others (USDA). Daily News Record No. 191: 26 (Oct. 2, 1961).

Paper presented at 40th AATCC meeting. Treatment with optical brighteners either before or simultaneously with cross-linking are equally effective in producing bright white wash-and-wear cottons. (5699)

RESIN-TREATED VISCOSE JERSEY FABRICS. Courtaulds Ltd. Hosiery Trade J. 68: 250-252 (Oct. 1961).
Resin finishes on continuous filament viscose rayon have given laboratory and wear trial results, which are encouraging as regards modern performance assets of stability to washing, easy-care generally and crease shedding in particular. The finishing technique is briefly noted. (5700)

ACTION OF HYPOCHLORITE ON RESIN-TREATED COTTON. M. G. Gokhale and P. C. Mehta (Ahmedabad Textile Ind. Research Assoc.). (Letter to the editor). Textile Research J. 31: 915-916 (Oct. 1961).
Data on the kinetics of chlorine retention during hypochlorite treatment of crease resistant cottons finished with dimethylol urea and dimethylol ethylene urea are presented. (5701)

CHEMICAL REAGENTS FOR CREASE-RESIST FINISHING. J. T Marsh. Textile Recorder 79: 98-100 (Oct. 1961).
Current knowledge on the use of divinyl sulfone for producing wash-and-wear finishes on cellulose is summarized. 13 refs. (5702)

FLUORESCENT WHITENING AGENTS IN WASH-WEAR FINISHING OF COTTON. R. M. Reinhardt, T. W. Fenner, and J. D. Reid (So. Reg. Research Lab.), M. S. Furry and M. Walsh (Agri. Research Service). Am. Dyestuff Reptr. 50: P771-P778 (Oct. 2, 1961).
The use of fluorescent whitening agents in the wash-wear finishing of cotton fabrics was investigated. Applications prior to the crosslinking treatment, after the crosslinking treatment, and with the crosslinking agent in the same pad bath were studied. Durability of whitening effects to various types of laundering was determined. Any changes in the fabric's resistance to wrinkling and susceptibility to chlorine and light damage due to the treatments also were noted. The whitening agents had practically no effect on the wrinkle-resistance properties of the finished fabrics. However, chlorine damage to some samples was increased when certain whiteners were used. This was overcome if a highly chlorine-resistant crosslinking agent or one with good neutralizing capacity was employed. 29 refs. (5703)

MILLMAN'S GUIDE TO WASH-WEAR FINISHES. S. P. Young (Young Chemicals). Modern Textiles Mag. 42: 30-32, 57-58 (Oct. 1961).
Broad review of wash-wear finishes and the chemicals that make them work, along with brand name definitions. (5704)

WASH-WEAR WOOLS. J. R. McPhee. Daily News Record No. 191: 26 (Oct. 2, 1961).
Paper presented at 40th AATCC meeting. The principles and applications of the CSIRO flat-setting process for wool are emphasized. (5705)

Dyeing and printing D2

STUDIES ON THE DYEING OF ACRYLONITRILE FIBER. PART 9. PURIFICATION AND ESTIMATION OF ACID DYE. PART 10. CONDITIONS FOR APPLYING COUPLING COMPONENTS OF AZOIC DYES TO ACRYLONITRILE FIBER. Y. Takase. J. Soc. Textile Cellulose Inds. Japan 17, No. 6: 526-536 (1961). In Japanese (English summary). Summary in BCIRA 41: 3030 (1961). (5706)

PAPIN AND HIS NEW DIGESTER: "INVENTIONS OF THE PRESSURE KIER AND PRESSURE DYEING." S. M. Edelstein (Dexter Chem. Corp.). Am. Dyestuff Reptr. 50: 766-769, 786 (Oct. 2, 1961). (5707)

CONTINUOUS DYEING OF ORLON ACRYLIC TOW. R. J. Thomas (E. I. du Pont de Nemours & Co.). Am. Dyestuff Reptr. 50: 706-709 (Sept. 18, 1961).
In the pad-steam process using ethylene carbonate as a pad-liquor additive (USP 2 654 652), Orlon tow is dyed without previous scouring or wetting out. Details of the process using cationic and disperse dyes, as well as observations on tow dyed by this procedure, are given. (5708)

CROSS-DYED EFFECTS IN ACRILAN AND ACRILAN 16 JERSEY FABRIC. A. Shenton. Textile Merc. 145: 413, 415 (Sept. 29, 1961).
The basis of the single-bath method for obtaining cross-dyed, tone-on-tone, reverse, and 3-color effects is explained. Techniques for minimizing creasing and for crease removal are also covered. (5709)

APPLICATION OF CIBACRON DYES BY THE COLD PAD-BATCHING PROCESS. P. Ulrich. SVF Fachorgan Textilveredlung 16, No. 4: 241-247 (1961). In German. Through BCIRA 41: 3011 (1961).
In connection with a previous paper on the cold batching method for Cibacron dyes (abstr. 1089/61), some theoretical aspects concerning the color depth and effects of urea or electrolyte addition are discussed, and practical directions are given. The method is also applicable for knitted fabrics (including circular-loom fabric). (5710)

DYEING WITH DRIMAREN Z DYES BY THE PADDING METHOD. M. Capponi. SVF Fachorgan Textilveredlung 16, No. 4: 228-236 (1961). In German. Through BCIRA 41: 3016 (1961).
The Drimaren Z dyes (Sandoz AG) are a group of reactive dyes suitable for cotton and regenerated cellulose. They form with the fiber in alkaline medium a very stable almost irreversible bond; the dyeings exhibit, consequently, excellent wetfastness. The dyes are stable in alkaline solutions and, owing to their low affinity for the fiber, unfixed dye can be easily removed by washing; they are especially suitable for continuous dyeing methods. Their application by methods with and without intermediate drying (thermofix, single-bath, and pad-roll and cold pad-batch methods, respectively) is described. (5711)

MAGIC RULE OF THREE: PROBLEMATICS IN REACTIVE DYEING. J. E. Wegmann. Textile Merc. 145: 212-214 (Aug. 18, 1961).
Abstract of paper presented at 31st annual meeting of Textile Research Inst. The generally accepted views on the mechanism involved in the dyeing of cellulose fibers with reactive dyes are discussed under: adsorption of the dye on to the substrate; reaction with specific groups; and elimination of by-products. (5712)

DISPERSOL CWL: LEVEL-DYEING ASSISTANT FOR WOOL DYEING. J. G. Graham (Imp. Chem. Inds. Ltd). Can. Textile J. 78: 37-40 (Sept. 29, 1961).
Dispersol CWL is a cation-active product that forms soluble complexes with acid milling dyes, reducing the rate of dyeing to permit improved leveling. It may also be used with chrome and certain acid leveling dyes. Practical dyeing techniques for its use are outlined. (5713)

CAUSE OF UNEVEN ENDS DURING DYEING BY THE COLD BATCHING METHOD. M. Capponi. SVF Fachorgan Textilveredlung 16, No. 5: 341-351 (1961). In German. Through BCIRA 41: 3017 (1961).
Factors which affect the dyeing uniformity of fabric ends are found to comprise dye substantivity and decrease of OH-ions in the padding liquor. The method described makes it possible to examine both factors separately and to obtain quantitative data. Except for some particular cases, practically no substantivity effects are found under normal padding conditions with Drimaren Z dyes. The decrease of OH-ions during padding can be greatly suppressed by using a mixture of sodium hydroxide and sodium metasilicate. (5714)

NEW DEVELOPMENTS IN DYE CHEMISTRY. PART 3. BEHAVIOR OF REMAZOL DYES DURING DYEING BY THE PADDING METHOD. H.-U. von der Eltz. Melliand Textilber. 42, No. 6: 671-678 (1961). In German. SVF Fachorgan Textilveredlung 16, No. 5: 320-340 (1961). In German. Through BCIRA 41: 3013 (1961).
Dyeing methods with neutral dye-padding liquors (affinity and migration during intermediate drying; fixing conditions; alkali, fixing temperature and time, advantages of the 2-bath method) and with alkaline dye-padding liquors (alkali and stability of the padding liquor; fixing with sodium bicarbonate and soda, with trisodium phosphate and sodium hydroxide) are discussed and compared. Fixing time and temperature, and amount and type of alkali are specified. For previous parts see abstr. 2415/59 and 1525/60. (5715)

DYEING OF CELLULOSE YARNS WITH PHTHALOGEN DYES. PART 1. G. Textor. Textil-Praxis 16, No. 5: 510-514 (1961). In German. Through BCIRA 41: 3006 (1961).
Theoretical principles, dyeing of cotton and cotton/viscose staple blends on cheeses, and toning of phthalogen dyeings with Indanthren dyes are discussed. (5716)

NEW TECHNIQUES OF APPLYING REACTIVE DYES TO COTTON FABRICS. N. Mindrea and I. Megheles. Industria Textila 12, No. 4: 149-151 (1961). In Rumanian. Through BCIRA 41: 3018 (1961).
Modifications of the 2-phase dyeing method with reactive dyes are described. They are based on impregnation and rolling up of the fabric without intermediate drying. Advantages of these techniques (increase of productivity, quality improvement and higher degree of dye fixation) as compared with the previous procedure are pointed out. (5717)

EFFECT OF THE LIQUOR RATIO ON THE DEGREE OF EXHAUSTION OF DISPERSE DYES DURING HIGH TEMPERATURE DYEING OF POLYESTER FIBERS. E. Merian, J. Carbonell, and V. Sanahuja. Textil-Rundschau 16, No. 4: 181-184 (1961). In German. Through BCIRA 41: 3024 (1961).
Results from experiments on 21 disperse dyes show that, for all dyes, the adsorption power is highest in short liquors and asymptotically approaches a quantitative yield if the amount of dispersing agent is based on the liquor, i.e. also approaches the zero limiting value. For infinitely-long liquor ratios, the dye yield drops to a minimum, i.e. the whole dye remains in the bath. This result is, in principle, independent of the dye concentration if the saturation concentration is exceeded. (5718)

DYEING NYLON YARNS. C. L. Ballard. Fibre and Fabric 114: 8-9 (Oct. 1961).
Some suggestions are made for dyeing nylon and nylon blends. (5719)

SATURATION OF POLYESTER FIBERS BY DISPERSE DYES. J. Carbonell. Textil-Praxis 16, No. 5: 501-510 (1961). In German. Investigacion e Informacion Textil 4, No. 1: 39-61 (1961). In Spanish. Through BCIRA 41: 3022 and 3023 (1961).
The dyeing mechanism (dyeing equilibria, saturation) and dyeing conditions (effects of dyeing time and quantity of dispersing agent, type of dispersing agent, subsequent soaping, liquor ratio) are discussed, and photomicrographs of fiber cross-sections dyed with various disperse dyes and dispersing agents are shown. (5720)

LEVELING OF DISPERSE DYES ON POLYESTER FIBERS. U. Lerch. Melliand Textilber. 42, No. 5: 540-545 (1961). In German. Through BCIRA 41: 3025 (1961).
The factors affecting level dyeing with disperse dyes on polyester fabrics (migration of dyes in dependence of carriers, temperature, and color depth) are discussed. During dyeing at normal pressure, the presence of a carrier is necessary to increase the absorption rate and to make dye migration possible. In practice, a greater amount of carrier is necessary than that calculated theoretically. An addition of 1-2 c.c./l was found of advantage in pressure dyeing; the dyeing temperature should in any case be as high as possible. (5721)

IMPERON MGN PROCESS FOR DYEING AND FINISHING POLYESTER CURTAIN MATERIAL. G. Weckler and S. Müller. Melliand Textilber. 42, No. 5: 546-548 (1961). In German. Through BCIRA 41: 3027 (1961).
The advantages of the method comprise: economy, simple application, easy removal of the resin film formed on the roller surface, consistent shades even at variable fixing temperatures, excellent fastnesses, low soiling tendency, and no graying even after repeated washing. (5722)

DYEING HARD-TWIST WOOL CARPET YARNS WITH CIBACRON DYES. H. Abel (Ciba Ltd). Ciba Rev. No. 4: 41-42 (1961).
Laboratory-scale and bulk trials have shown Cibacron dyes, when applied to overtwisted yarns by the Neovadine process, to yield outstandingly good results both as to penetration and levelness. The procedure is described. (5723)

CONTINUOUS DYEING OF RAW WOOL STOCK. K. Menzi. Daily News Record No. 191: 36 (Oct. 2, 1961).
Paper presented at 40th AATCC meeting. The 2-phase Cibaphasol process is said to balance out the differences in the affinity of wool for dyes and to overcome its hydrophobic nature by using an emulsion-type dye liquor instead of an aqueous one. (5724)

DYE UPTAKE OF MONOFILAMENT POLYAMIDES UNDER THE MICROSCOPE. R. Lassé. Textil-Rundschau 16, No. 4: 198-204 (1961). In German. Through BCIRA 41: 3028 (1961).
Polyamide monofilaments dyed with direct, acid, and disperse dyes were examined under the microscope and the results compared. (5725)

WOOLEN HOSE DYEING. J. Wauters. Textile Inds. 125: 99-100, 115 (Oct. 1961).
The article covers the advantages of and procedure for monochrome dyeing. Typical dyeing formulas are given and scouring precautions are discussed. Methods for dyeing wool-union hosiery are also noted. (5726)

PHYSICO-CHEMICAL PROPERTIES OF COACERVATION SYSTEMS APPLICABLE IN DYEING WOOL. B. Milicevic and F. Kern. Textil-Rundschau 16, No. 4: 190-198 (1961). In German. Through BCIRA 41: 3033 (1961).
In this review the authors discuss some methods used in continuous dyeing of wool to eliminate the so-called gray haze, in which coacervation systems gave very good results (e.g. the Cibaphasol process), the properties of Cibaphasol solutions and of the Cibaphasol/coacervation system, and the dyeing mechanism in the presence of Cibaphasol C. 41 refs. (5727)

DEVELOPMENT OF THE CYCLOTRIC DYE JIG. E. F. Rotter. Melliand Textilber. 42, No. 5: 553-555 (1961). In German. Through BCIRA 41: 2997 (1961).
The development of the Cyclotric rewinding gear, based on the solution of functional, driving, and control problems in the cloth-winding process during jig dyeing, is discussed, and the latest version of the development is described. (5728)

HIGH TEMPERATURE DRY-DYE FIXATION. PART 2. FLUID BED DYEING RESEARCH. F. G. Audas. Dyer 126: 331-339 (Sept. 8, 1961). (5729)

HIGH TEMPERATURE DRY-DYE FIXATION. PART 2. EFFECT OF FLUID BED HEAT TREATMENTS ON FABRICS (continued). F. G. Audas. Dyer 126: 529-533 (Oct. 6, 1961).
The laboratory and pilot plant experiments described indicate that commercial width cloth can be dyed with the assistance of fluid bed heat treatments, to a standard of high quality. (5730)

VAT DYEING TODAY. PART 7. O. W. Clark (Am. Cyanamid Co.). Textile World 111: 96-98 (Oct. 1961).
The preparation of cotton, viscose, and cotton/viscose piece goods for vat dyeing is described. (5731)

SPECTROPHOTOMETRIC QUANTITATIVE CALCULATION OF INTERACTION BETWEEN DYES AND TEXTILE FIBERS. L. I. Belen'kii, T. V. Bromberg, and M. E. Kazanskaya. Trudy. Tsentral. Nauch.-Issledovatel. Inst. Khlopchatobumazh. Prom. 1958: 115-122 (Pub. 1960). Summary in Chem. Abstr. 55: 20440b (1961). In Russian. (5732)

EFFECT OF AIR ON THE SORPTION OF DIRECT DYES BY CELLULOSE FIBERS. N. D. Ilyashuk, F. I. Sadov, S. A. Melikhov, and I. N. Kalinina. Zhur. Priklad. Khim. 34, No. 4: 902-908 (1961). In Russian. Through BCIRA 41: 3019 (1961).
Adsorption of direct dyes by cellulosic fibers was studied as a function of dye concentration, temperature, electrolytes, surface active agents, and intermittent vacuum. It was found that, as a result of the submicroscopic fiber surface and the presence in the fibers of a considerable amount of adsorbed air, the fibers become inactivated. In vacuo, the adsorption of dyes is considerably accelerated and increased (2-4 times), the dye penetration into the fiber is improved, and the fastness properties of the dyeings are better. (5733)

INFLUENCE OF THE SOLVENT ON THE COLOR OF DYES (SOLVATOCHROMISM). A. I. Kiprianov. Russian Chem. Rev. No. 11: 618-626 (1960). In Russian. Through BCIRA 41: 3001 (1961).
Review. 52 refs. (5734)

CELLULOSE ACETATE DYES. PART 2. CONVENIENT SYNTHESIS OF ANTHRAPYRIDONES. K. Sivasankaran and S. V. Sunthankar (Univ. Bombay). J. Sci. Ind. Research (India) 20D: 265-268 (July 1961).
The method involves the reaction of an anthraquinone and ethyl acetoacetate which is catalyzed by pyridine. 6 refs. (5735)

NEW BLACK DYES FOR CELLULOSIC FIBERS. A. G. Emel'yanov. Tekstil. Prom. 20, No. 8: 38-41 (1960). In Russian. Summary in BCIRA 41: 3020 (1961). (5736)

COMMERCIAL FEASIBILITY OF THE USE OF LAC DYE ON CELLULOSIC, PROTEIN, AND POLYAMIDE FIBERS. M. J. Wadia, S. B. Mehta, D. R. Sharma, and J. G. Parikh (Silk & Art Silk Mills' Research Assoc.). Silk Rayon Inds. India 4: 9-13, 27 (July 1961).
The commercial feasibility of lac dye application on viscose, wool, silk, and nylon was investigated by premordanting, as well as by aftermordanting procedures. The results in dyeing wool and silk are encouraging. Procedures for a limited number of satisfactory shades on viscose and nylon, however, are suggested. (5737)

STUDIES OF THE PHOTOTROPIC PHENOMENA IN DYESTUFFS: RELATIONSHIPS BETWEEN DEGREE OF AGGREGATION AND PHOTOTROPY. G. Eigenmann and F. Kern. Textil-Rundschau 16, No. 4: 167-176 (1961). In German. Through BCIRA 41: 3002 (1961).
Spectroscopic measurements showed that, in a given dye-substrate-resin system in which the dye has phototropic tendencies (change of color according to the wave-length of the incident light), differences in phototropy can be brought about by changing the particle size of the dye. There is, in addition, a chemical factor which affects the photochemical reaction between dye and substrate. (5738)

REACTIVE DYES FOR CHEMICAL FIBERS. R. L. Denyer and J. A. Fowler. Melliand Textilber. 42, No. 5: 535-540 (1961). In German. Through BCIRA 41: 3021 (1961). (5739)

THE CHEMIST'S CONTRIBUTION TO COLOR IN OUR LIVES. F. Bonney. New Scientist: 104-106 (July 13, 1961). Through BCIRA 41: 3007 (1961).
The development and application of reactive dyes, particularly the monochlorotriazine dyes, are described. (5740)

NEW FINDINGS DURING DYEING WITH CIBACRON DYES. M. Peter. SVF Fachorgan Textilveredlung 16, No. 4: 219-228 (1961). In German. Through BCIRA 41: 3010 (1961).
Physical and chemical properties of the dyes are reviewed, and practical experiences with the individual methods of application (exhaustion method, cold pad-batch method, and the continuous pad-steam, thermofix and single-bath steaming methods) are described. Additionally, some directions are given for the after-treatment of the dyed fabric. (5741)

EMULSION PRINTING PROCESSES. H. Wirth. Melliand Textilber. 42, No. 5: 549-552 (1961). In German. Through BCIRA 41: 3042 (1961).
Various emulsion printing methods and water-in-oil and oil-in-water thickeners are reviewed, and their advantages and disadvantages, according to the dye class used, are pointed out. (5742)

INFRARED FIXING FOR CIBACRON DYES. PARTS 1 AND 2. P. Ulrich, W. Bach, and H. P. Schaub. SVF Fachorgan Textilveredlung 16, No. 5: 298-319 (1961). In German. Through BCIRA 41: 3012 (1961).
Part 1. The possibility of using infrared radiation energy as a source for fixing reactive dyes is discussed in detail and illustrated by diagrams and color plates. As compared with conventional methods, infrared fixing requires a considerably shorter time and the results are promising. Part 2. Experiments are described, in which Cibacron prints were treated by a single-step infrared drying/fixing process. This process offers several advantages. (5743)

IMPORTANCE OF REMAZOL DYES IN DYEING CELLULOSE AND POLYAMIDE FIBERS, ACRILAN, WOOL, AND NATURAL SILK. H.-U. von der Eltz and W. Hacker. Z. ges. Textil-Ind. 63, No. 5: 356-361 (1961). In German. Through BCIRA 41: 3015 (1961).
Discontinuous and continuous dyeing processes, aftertreatment, fastness properties, and advantages of Remazol dyes on cellulosic fibers, as well as dyeing of polyamide, modified polyacrylonitrile, and animal fibers are described. (5744)

CONTINUOUS METHOD FOR REMAZOL DYES. K. Wagner. Z. ges. Textil-Ind. 63, No. 4: 278-283 (1961). In German. Through BCIRA 41: 3014 (1961).
Continuous methods applicable in dyeing with Remazol dyes are reviewed and the most suitable processes are pointed out (pad-drying, 2-bath pad-steam, and single-bath wet-steam and pad-steam methods), in the order of their importance. (5745)

WASHFASTNESS OF REACTIVE DYES OF THE CARBOXYLIC AZIDE TYPE, SULFONYL AZIDE TYPE, AND PROCION DYES. S. Yamamoto, S. Fujii, and H. Hiyama. Kagaku to Kogyo (Osaka) 35: 20-24 (1961). Summary in Chem. Abstr. 55: 20439d (1961). In Japanese. (5746)

PIECE SCOURING OF WOOL FABRICS IN RELATION TO UNEVEN DYEING. B. F. J. Moxon (Wool Inds. Research Assoc.). Dyer 126: 302 (Sept. 8, 1961). (5747)

PROGRESS REPORT: PRINTING WITH THE FIBER REACTIVES. S. M. Suchecki. Textile Inds. 125: 123-124, 131-133 (Oct. 1961).
Recent developments in techniques for printing cellulose fibers with reactive dyes, as well as existing limitations and the outlook for overcoming them, are discussed. (5748)

TWO-PHASE PRINTING PROCESS FOR CIBACRON COLORS. G. Kögel (Ciba Ltd). Ciba Rev. No. 4: 39-41 (1961).
The advantages of 2-phase printing with Cibacron reactive dyes are cited, and the procedure is described. (5749)

AUXILIARY DEVICES FOR SCREEN PRINTING. R. Künzl. Textil-Praxis 16, No. 5: 493-494 (1961). In German. Through BCIRA 41: 3039 (1961).
A longitudinal doctor for the long screen-printing table is described; it is fitted to an existing printing carriage and makes it possible to employ only one operative even for very large-size printing. Reference is also made to an automatic screen-printing carriage where all colors can be printed simultaneously, and to a new varnish-removing suction device. (5750)

TEXTILE PRINTING WITH EMULSIONS. R. Schwaebel. Z. ges. Textil-Ind. 63, No. 5: 352-355 (1961). In German. Through BCIRA 41: 3041 (1961).
Behavior of emulsions, requirements for obtaining stable emulsions, theoretical relationships between surface active substances and the structure of emulsions, and the advantages of emulsion printing methods are discussed. (5751)

CREATION OF PRINT-IMPRESSIONS ON TEXTILES: METHODS AND THEIR SCOPES. M. Kot. Silk Rayon Inds. India 4: 12-16 (June 1961).
Textile printing by blocks, screens, stencils, engraved rollers, and photographic techniques are briefly reviewed. (5752)

WHITE AND COLORED RESIST PRINTING OF STAPLE FIBER FABRICS. A. I. Bat'kov and I. B. Migacheva. Tekstil. Prom. 20, No. 8: 14-15 (1960). In Russian. Through BCIRA 41: 3046 (1961).
The method described for resist printing of staple fiber fabrics with azo dyes under vat dyes eliminates the operation of aging and the necessity of treating the fabrics with fixing agent. (5753)

PRINTING TUFTED CARPETS MADE FROM VISCOSE RAYON. B. Wahl (Ciba Ltd). Ciba Rev. No. 4: 36-39 (1961).
Requirements, techniques, dyes, and procedures for printing tufted viscose carpets are briefly reviewed. (5754)

UNIFORM HOLDING SYSTEM FOR SCREEN PRINTING MACHINES AND PRINTING CARRIAGES. E. Kilin. Melliand Textilber. 42, No. 6: 679-681 (1961). In German. Through BCIRA 41: 3040 (1961).
The advantages of the new system of holding the stencils in the frame are enumerated, and known methods are briefly reviewed. (5755)

AUTOMATIC CARRIAGE FOR LONG TABLE SCREEN PRINTING. Soc. Alsacienne de Constructions Mecaniques. Textile Recorder 79: 145 (Oct. 1961).
The SACM automatic screen printing carriage described is designed to fill the gap between hand printing and fully automatic screen printing machines of the moving belt type. (5756)

Drying, setting, conditioning D4

STUDY OF THE DRYING OF COTTON FABRIC AND ITS EFFECT ON SUBSEQUENT DYEING AND FINISHING. AATCC Rhode Island Section. Am. Dyestuff Reptr. 50: P807-P811, P821 (Oct. 16, 1961).
This paper is a study of the variables in drying by common plant practices and their effect on the subsequent dyeing and finishing. It was found that better control of drying will improve dyeing and finishing results. (5757)

MEASURING CHANGES IN BIREFRINGENCE OF TERYLENE AS INFLUENCED BY HEAT SETTING. R. Mares (Knitting Ind. Research Inst., Czechoslovakia). Man-Made Textiles 38: 128-130 (Oct. 1961).
The suitability of Mercer's method for measuring the birefringence of textile fibers with circular cross-section is described. Results of studies on the birefringence of Terylene filament yarns heat set in different media (hot oil, dry heat and infrared radiation) at different temperatures (100, 120, 140, 160, 180, 200, 220, and 240° C) are given. (5758)

DRYING COTTON AND WOOLEN FABRICS. R. Bergmann. 9 p. Art. 6002, 6/5, vers. 1. Available from Intern. Textile Serv., Zurich 48, Switzerland. Free.
This brief survey of drying methods and machines covers the technical and economic aspects of suspension, festoon, cushion nozzle, suction nozzle, perforated drum, and cylinder dryers and of tentering frames. (5759)

IMPORTANCE OF THE OPERATING COST CURVE FOR TEXTILE DRYERS. H. Wagner. Z. ges. Textil-Ind. 63, No. 5: 383-386 (1961). In German. Through BCIRA 41: 3075 (1961).
The necessity of basing the evaluation and comparison of drying installations on an operating-cost curve is pointed out, since a reduction of the specific operating costs is the most important criterion of the improvement brought about by the introduction of new machinery. (5760)

LUNGEN PIN TENTER FOR THERMOSETTING OF MANMADE FIBER FABRICS. W. Stockhausen. Melliand Textilber. 42, No. 5: 559 (1961). In German. Through BCIRA 41: 3073 (1961).
The special position of the pins makes it possible to transmit to the selvages the same temperature as to the other parts of the fabric, fully exposed to convection or radiation heat. In consequence, the subsequently dyed fabric does not show shade differences at the edges. (5761)

TESTING AND MEASUREMENT E

SPEED IS SLEUTH IN NEW TESTERS. Chem. Week 89: 85-86 (Nov. 4, 1961).
Recent developments in high speed testing methods and machines are reported. (5762)

RAPID EMBEDDING METHOD FOR FIBERS AND TEXTILES FOR THE PREPARATION OF CROSS-SECTIONS. H. Braun and M. Monshausen. Melliand Textilber. 42, No. 6: 662-666 (1961). In German. Through BCIRA 41: 3095 (1961).
Versamide 950, with or without addition of plasticizer, is used as embedding agent; it is a new type of polyamide prepared by condensation of di- and trimerized unsaturated fatty acids (especially linoleic) with polyamines. Its melting point is at about 90° C. Various widely used embedding procedures are reviewed. (5763)

INFRARED SPECTRA OF TEXTILE MATERIALS: IDENTIFICATION OF FIBERS AND PURE FABRICS. B. Cleverley and R. Herrmann. J. Appl. Chem. 11: 344-351 (Sept. 1961).
Infrared spectroscopy provides a sure, rapid method of identifying textile fibers and pure fabrics. A simple standard method of sample preparation using only a few milligrams of powdered material in a potassium bromide disc is outlined. Representative spectra are published, and the identifying features of each curve are briefly discussed. 28 refs. (5764)

Fibers E1

NEW INSTRUMENT FOR MEASURING HARDNESS OF TEXTILE FILAMENTS. A. C. Chakravarty (Indian Central Jute Comm.). J. Sci. Ind. Research (India) 20D: 238-239 (June 1961).
An instrument utilizing a simple lever system for the application of pressure on a textile filament to measure its hardness is described. (5765)

MEASUREMENT OF THE DIELECTRIC CONSTANT OF FILAMENT NYLON IN A TRANSVERSE FIELD. F. S. Ward (Shirley Inst.). Brit. J. Appl. Phys. 12: 450-455 (Sept. 1961).
An instrument has been designed for measuring the dielectric constant of a material in the form of a single cylindrical filament, and experiments are described in which it is used for measurements on nylon. (5766)

EFFECT OF AIR TEMPERATURE AND ATMOSPHERIC PRESSURE ON FIBER FINENESS MEASUREMENTS BY THE AIR-FLOW APPARATUS. M. Greuel and C. Sustmann. Ann. Sci. Textiles Belges No. 1: 29-37 (Mar. 1961). In French. Through BCIRA 41: 3099 (1961).
The rotameters used in air-flow measurements are calibrated for specified temperature and atmospheric pressure conditions. When testing in a nonconditioned atmosphere, the temperature correction is negligible but differences in atmospheric pressure must be corrected if they reach 10 mm Hg. (5767)

TWO-COMPONENT FIBERS. M. Stratmann. Z. ges. Textil-Ind. 63, No. 4: 249-252 (1961). In German. Through BCIRA 41: 3107 (1961).
Methods are described for the identification of 2-component fibers which consist of firmly bound but separable constituents, with special reference to partially saponified acetylcellulose as used in the production of flame yarns; Sayelle (previously Orlon 21) fiber, extruded from a double nozzle to impart to it a particularly intensive, reversible crimp; and the 2-layer PA/PT fiber, consisting of a polyamide core and polyethylene skin. Microphotographs are given showing the cross-section characteristics for the above fibers. (5768)

VARIATION LIMITS OF THE CLASS FREQUENCY IN FIBER LENGTH DETERMINATION. W. Zurek. Zesz. Nauk. Politech. Lodz. Wlok. No. 6: 145-148 (1960). In Polish. Through BCIRA 41: 3097 (1961).
In successive fiber samples, the numbers of specimens belonging to a certain class have a binomial distribution; for the mean fiber number in class $m_j > 16$, this distribution can be replaced by the normal and for $m_j \leq 16$ by the Poisson distribution. Formulas are given for calculating the mean fiber number in a given class and the variability, as well as the variability limits, of the frequency in random samples. (5769)

TWO-STAGE SAMPLING PLAN FOR ANALYSIS OF FIBER STAPLE LENGTH. T. Srôdka. Zesz. Nauk. Politech. Lodz. Wlok. No. 6: 133-143 (1960). In Polish. Through BCIRA 41: 3096 (1961).
By means of the Steinhaus formula, expressing the sample size as a function of the test costs and the value of the batch, the maximum sample size, determined for the measured staple length (manmade fibers), was found to be $n_{max} = 2,000$ fibers. Based on the sequential test of Wald, a 2-stage sampling plan was developed, each stage ($n_1 = n_2$) comprising 1,000 fibers; this plan ensures (with a probability of 0.995) acceptance of a good batch and rejection of a faulty one. (5770)

CHEMICAL METHODS FOR TESTING WOOL. H. Zahn. Melliand Textilber. 42: 421-426 (1961). In German. Through J. Textile Inst. 52: A515 (1961).
The article reviews methods for identifying extraneous substances in wool, and means of determining the changes in the constitution of wool protein during processing, either directly, or indirectly by measuring, e.g., the solubility, the speed of dye absorption, and the swelling. The scope and limitations of these methods are discussed. (5771)

PHYSICAL PROPERTIES OF WOOL FIBERS: DETERMINATION OF REGAIN IN WOOL BY DRYING WITH HEATED AIR. Wool Sci. Rev. No. 19: 20-32 (June 1961). (5772)

Yarns E2

CONTRIBUTION TO THE STUDY OF THE RESISTANCE TO RUBBING OF COMBED WOOL YARNS. A. Barella. Ann. Sci. Textiles Belges No. 1: 15-28 (Mar. 1961). In French. Through BCIRA 41: 3117 (1961).
The abrasion-resistance of yarn rubbing against yarn is compared with that of yarn rubbing against glass. Some aspects concerning the statistical distribution of the measured parameter are also studied, and the usefulness of the abrasion test for determining changes in some mechanical properties of the yarn as a result of fiber damage is pointed out. (5773)

SOME MORPHOLOGICAL CHARACTERISTICS OF TEXTURED YARNS. PART 2. OPTICAL SHADOW FACTOR OF FIBER IN YARN. K. Kawasaki. J. Soc. Textile Cellulose Inds. Japan 17, No. 6: 484-490 (1961). In Japanese (English summary). Through BCIRA 41: 3113 (1961).
The decrease in light transmission is related to the number of fibers in the path of the light, and mathematical expressions are derived for the shadow factor of crimped-filament webs and stuffer-type textured yarns. (5774)

COMPARISON OF REPEATED STRESS METHODS OF TESTING YARN. M. P. Nosov and A. S. Goikhman. Khim. Volok. No. 4: 42-48 (1960). In Russian. Through BCIRA 41: 3114 (1961).
Three methods of fatigue testing on yarn and cord are discussed: a stress of fixed amplitude, absolute deformation, and relative deformation. It is shown that the 3 methods produce identical conditions and that the fatigue characteristics resulting from each method are in complete agreement. The mathematical analysis is accompanied by 11 graphs. (5775)

BEHAVIOR OF WORSTED YARNS SUBJECTED TO REPEATED STRETCHING. A. Barella. Investigacion e Informacion Textil 4, No. 1: 3-23 (1961). In Spanish. Through BCIRA 41: 3118 (1961).
The behavior of worsted yarns during repeated stretching on a new device is studied, particular attention being paid to the effects of sample length and amplitude of the fatigue cycle, static electricity on the yarn, correlation between the number of extensions and rupture of the yarn, and twist. The results are presented graphically and in tables. 19 refs. (5776)

DETERMINATION OF THE DEGREE OF SETTING OF CRIMPED POLYAMIDE YARNS. PART 1. K. Schwertassek and G. Vyskocilova. Textil-Praxis 16, No. 4: 394-398 (1961). In German. Through BCIRA 41: 3112 (1961).
Preparation of crimped polyamide yarns by the discontinuous classical method is briefly discussed, and the method for determining the critical dissolution temperature for ascertaining the degree of setting on polyamide 6, and 66, and on polyester fibers is described. The method makes it possible to detect defects in the yarn and fabric, due particularly to differences in the heat effect. Limitations of the method are pointed out, and reference is also made to the fact that the oil content of the yarn may affect the values obtained. It is, therefore, advisable to remove the oil, before testing, with benzene, chloroform, etc. (5777)

Fabrics E3

APPARATUS FOR LABORATORY ANALYSES. C. Marcu. Industria Textila 12, No. 4: 154-156 (1961). In Rumanian. Through BCIRA 41: 3124 (1961).
The apparatus described makes it possible to carry out on finished textiles, complex analyses which require constant temperature during certain mechanical operations. (5778)

MEASUREMENT OF COMPRESSIONAL MODULUS OF TEXTILE FABRICS BY MEANS OF ROLLING FRICTION. Y. Go and A. Shinohara. J. Soc. Textile Cellulose Inds. Japan 17, No. 6: 447-483 (1961). In Japanese (English summary). Through BCIRA 41: 3121 (1961).
Methods involving the use of rolling cylinders and cylindrical-profile rockers are described, and some test results are discussed. The compressional modulus of a fabric is approximately inversely proportional to its bulkiness. (5779)

INFRARED ABSORPTIVE CAPACITY OF TEXTILE MATERIALS AND THEIR SIGNIFICANCE IN THE FINISHING INDUSTRY. L. G. Beresenyi. Magyar Textiltech. 12, No. 8: 308-310 (1960). In Hungarian. Through BCIRA 41: 3126 (1961).
An instrument, the Inframeter, has been developed for measuring the infrared absorptive capacity of textile materials. It may be used for identification of dyes, for assessment of camouflage, for determination of heat-absorbing and -reflecting properties, and in drying and resin-condensation problems. (5780)

MEASUREMENT OF SHEARING AND ELONGATION. B. Behre. Medd. TEFO No. 6: 1-14 (1961). In Swedish (English summary). Through BCIRA 41: 3120 (1961).
A device for attachment to the Instron tester that enables tensile as well as shear tests to be made is described. Test results on cloths with this and with the nonrecording shear tester (abstr. 1598/61) are compared. (5781)

FABRIC MICROSCOPY AS A METHOD FOR EXAMINING MECHANICAL DAMAGES ON CALENDERED TEXTILES. N. Bigler. SVF Fachorgan Textilveredlung 16, No. 4: 236-240 (1961). In German. Through BCIRA 41: 3123 (1961).
Three cases of damage to viscose spun rayon fabric (a textured resin-treated fabric and embossed fabrics) are reported, and photomicrographs of fiber damage during calendering are shown; the unsuitability of these particular fabrics for calendering is pointed out. (5782)

AATCC ANTIBACTERIAL GROUP EVOLVES 2-PART TEST. AATCC Comm. on Antibacterial Agents. Daily News Record No. 188: 45 (Sept. 27, 1961).
A 2-part procedure, consisting of a qualitative or presumptive test, and a quantitative or reference test, is recommended for evaluating fabrics treated with antibacterial agents. (5783)

REPORT OF AATCC COMMITTEE ON WASH-AND-WEAR. Daily News Record No. 188: 40 (Sept. 27, 1961).
Work directed toward developing procedures that can be used for the evaluation of the appearance of component parts of a garment such as the smooth appearance of fabrics and the appearance characteristics of creases, seams, and pleats under critical lighting conditions is reported. (5784)

Other E4

LABORATORY EVALUATION METHODS FOR FIBER LUBRICANTS. H. T. Buckley (Emery Inds.). Am. Dyestuff Reptr. 50: P779-P783 (Oct. 2, 1961).
Several simple lab tests have been briefly reviewed which might be helpful to a fiber processor in predicting the mill performance of a given lubricant. (5785)

CHLORAMINOMETRIC DETERMINATION OF DYES. M. S. Chernavina (Agr. Inst., Sverdlovsk). Trudy Sverdlovsk. Sel'skokhoz. Inst. 7: 363-368 (1960). In Russian. Summary in Chem. Abstr. 55: 21595b (1961). (5786)

METHODS FOR STUDYING RESIN DISTRIBUTION. C. J. Seiler. Tappi 44: 172A-175A (Oct. 1961).
This survey of quantitative and qualitative methods available for measuring resin distribution in cellulose materials is divided into 4 major sections: microscopy extraction, physical analysis, chemical analysis, and autoradiography. 30 refs. (5787)

STABILITY OF PVC. PART 2. EVALUATION TECHNIQUES FOR STABILIZERS. G. D. Burdess and C. N. Finlay. Fibres and Plastics 23: 73-75 (Mar. 1961).
Tests for evaluating PVC stabilizers for heat and light stability are described. (5788)

MILL MANAGEMENT F

MODERN TEXTILE MANAGEMENT. PART 8. EVALUATION OF SELLING OPERATIONS. N. L. Enrick. Textile Inds. 125: 81-82 (Oct. 1961).
The critical analysis of patterns and trends from past sales records to establish guidelines to future action, policy, and decisions is discussed. (5789)

Industrial engineering F1

DOES IT PAY TO REEQUIP? W. S. Sondhelm. Textile Recorder 79: 90-93, 100 (Oct. 1961).
The economic and technical factors involved in considering reequipment are discussed and illustrated by means of specific examples. (5790)

ARE YOUR PERSONNEL PRACTICES IN LINE? H. E. Steele (Auburn Univ.). Textile Inds. 125: 67-73 (Oct. 1961).
Results of a survey of the effect of 5 factors (mill size, unionization, personnel specialization, company structure, and headquarters location) on personnel practices in 98 southern spinning and weaving mills are presented. (5791)

STATISTICAL QUALITY CONTROL: ITS AIMS AND DEVELOPMENT. Silk Rayon Inds. India 4: 24-25 (July 1961). (5792)

SYSTEMS FOR HANDLING WASTES FROM THE MANUFACTURE OF ORLON ACRYLIC FIBER. E. F. Taylor and others. E. I. du Pont de Nemours & Co., Inc., Waynesboro Works, Waynesboro, Va. Oct. 1960. 34 p.
A paper for presentation at the 33rd annual meeting of the Water Pollution Control Federation in Philadelphia, Pa., October 2-6, 1960. (5793)

ORLON MANUFACTURING WASTES TREATMENT. E. F. Taylor and others. J. Water Pollution Control Fed. 33: 1076-1089 (Oct. 1961).
See also abstr. 5793/61. (5794)

Plant and equipment F2

MILL MODERNIZATION SURVEY. Am. Textile Reptr. 75: 15-24 (Oct. 12, 1961).
Following a brief discussion of reasons for modernization, the results of modernization of carding and spinning rooms with Davis and Furber equipment in some typical woolen mills are summarized. (5795)

TEXTILE MILL MAINTENANCE. PART 9. CONTROL OF TEXTILE ATMOSPHERIC CONDITIONS. F. H. Slade. Textile Mfr. 87: 372-376 (Sept. 1961).
The following types of air conditioning systems and their control are discussed: fresh-air recirculation, dual duct, and evaporative cooling systems. (5796)

RESILIENT MOUNTINGS FOR VIBRATION ABSORPTION. Textile Mfr. 87: 377, 378-379 (Sept. 1961).
The use of resilient mountings to reduce the incidence of vibration arising from the operation of textile machinery and the types available are briefly discussed. (5797)

UTILIZATION OF A DEVICE FOR RECORDING SPEED VARIATIONS IN THE TEXTILE INDUSTRY. A. B. Gangli. Magyar Textiltech. 12, No. 7: 241-245 (1960). In Hungarian. Through BCIRA 41: 2943 (1961).
The device can be used to record speed variations of drafting rollers and variations in angular velocity of rotating shafts. (5798)

SCIENCES G

Chemistry G1

PREPARATION OF AMINOCELLULOSES. KINETIC STUDY OF THE ACTION OF BIS(EPOXYAMINES). C. Bruneau (Higher School Ind. Phys. & Chem., Paris). Compt. Rend. 252: 2413-2415 (1961). In French. Summary in Chem. Abstr. 55: 20975g (1961). (5799)

FACTORS AFFECTING THE DETERMINATION OF CARBOXYL GROUPS IN CELLULOSE. E. Sjöström and P. Haglund (Stora Kopparbergs Bergslafs AB). Svensk Papperstidn. 64: 438-446 (1961). In English. Summary in Chem. Abstr. 55: 21576h (1961). (5800)

MORPHOLOGICAL UNITS IN COTTON LINTERS. H. Krässig and W. Käppner. Makromol. Chem. 44-46, No. 3: 1-7 (1961). Summary in BCIRA 41: 3179 (1961). (5801)

NEW LIGHT ON MELT ELASTICITY. R. A. McCord and B. Maxwell. Modern Plastics 39: 116-130, 232-240 (Sept. 1961).
This work was devoted to the study of the elastic recovery characteristics (normally associated with solids) of polymer melts under conditions of shear strain in order to provide a deeper insight into the effect of this type of rheological behavior on the flow and deformation of polymers during fabrication. 12 refs. (5802)

SOME HYDRODYNAMIC PROPERTIES OF NEUTRAL SUSPENSIONS OF CELLULOSE CRYSTALLITES AS RELATED TO SIZE AND SHAPE. R. H. Marchessault, F. F. Morehead, and M. J. Koch (Am. Viscose Corp.). J. Colloid Sci. 16: 327-344 (Aug. 1961).
19 refs. (5803)

SOME HYDRODYNAMIC PROPERTIES OF RAMIE CRYSTALLITES IN PHOSPHATE BUFFER. R. H. Marchessault, M. J. Koch, and J. T. Yang (Am. Viscose Corp.). J. Colloid Sci. 16: 345-360 (Aug. 1961).
16 refs. (5804)

DIFFRACTOMETRIC METHOD FOR THE EVALUATION OF THE CRYSTALLINITY OF CELLULOSE. O. Ant-Wuorinen and A. Visapää. Paperi ja Puu 43: 105-110, 207-212 (1961). In English. Summary in Chem. Abstr. 55: 20419f and 20420c (1961). (5805)

TRANSITIONS OF CELLULOSE DERIVATIVES. T. Fujimoto and Y. Inoue (Tokyo Inst. Technol.). Kobunshi Kagaku 17: 436-440 (1960). In Japanese. Summary in Chem. Abstr. 55: 21577h (1961). (5806)

ESTERIFICATION OF MERCERIZED CELLULOSE CONTAINING BENZENE INCLUSIONS. J. Sébille-Anthoine (Ecole superieure phys. chim. ville, Paris). Compt. rend. 252: 3797-3799 (1961). Summary in Chem. Abstr. 55: 20443a (1961). In French. (5807)

THE ETHYLENEDIAMINE-CELLULOSE COMPLEX. PART 3. FACTORS IN THE FORMATION OF THE COMPLEX. L. Segal and J. J. Creely (So. Reg. Research Lab.). J. Polymer Sci. 50: 451-465 (1961). Summary in Chem. Abstr. 55: 21577g (1961). In French. (5808)

EVIDENCE OF CHAIN FOLDING IN THE FINE STRUCTURE OF CELLULOSE. H. Dolmetsch. Kolloid Z. 176, No. 1: 63-64 (1961). In German. Summary in BCIRA 41: 3178 (1961). (5809)

INFLUENCE OF THE PRESENCE OF NONCELLULOSIC MATERIAL UPON OXIDATIVE DEGRADATION OF WOOD CELLULOSE IN ClO_2 SOLUTION. T. Koshizawa (Kokoku Rayon & Pulp Co.). Kogyo Kagaku Zasshi 61: 1093-1096 (1958). In Japanese. Summary in Chem. Abstr. 55: 21580a (1961). (5810)

INORGANIC-POLYMER CHEMISTRY POINTS WAY TO HIGH-TEMPERATURE PLASTICS. G. Barth-Wehrenalp (Pennsalt Chemicals Corp.). Chem. Eng. 68: 117-122 (Oct. 30, 1961).
A review of the present status of inorganic-polymer research. 23 refs. (5811)

POLYMERIZATION. A. Chapiro. Nucleonics 19: 65-68 (Oct. 1961).
Review of recent developments in the field of radiation-initiated polymerization. (5812)

TENSILE STRESS RELAXATION BEHAVIOR OF PARTLY TO COMPLETELY ACETYLATED POLYVINYL ALCOHOL POLYMERS. K. Fujino, T. Horino, K. Miyamoto, and H. Kawai (Kyoto Univ.). J. Colloid Sci. 16: 411-430 (Aug. 1961).
24 refs. (5813)

NYLON 6 AND RELATED POLYMERS. R. Aelion (Foster Grant Co.). Ind. Eng. Chem. 53: 826-828 (Oct. 1961).
Nylons other than the four types now produced on an industrial scale (nylon 6, nylon 66, nylon 610, and nylon 11) were investigated from the standpoints of costs and properties in comparison with those already produced. It has been found that their properties, although interesting, vary within the limits set up by the four basic nylons. The principal factor is the production cost of the monomer. In this respect, the anticipated expansion of the production of caprolactam arising from a downward trend in processing costs should give a definite advantage to nylon 6 over the others for large scale development. 11 refs. (5814)

INFLUENCE OF HEAT TREATMENT ON THE DIELECTRIC PROPERTIES OF NYLON 66 AND NYLON 6. T. Tabata (Kureha Kasei Co. Ltd). Kobunshi Kagaku 17: 329-332 (1960). In Japanese. Summary in Chem. Abstr. 55: 21599g (1961). (5815)

QUANTITATIVE INVESTIGATION OF THE X-RAY DIFFRACTION PICTURE OF SOME TYPICAL RAYON SPECIMENS. PART 2. P. H. Hermans and A. Weidinger (Inst. Cellulose Research, AKU). Textile Research J. 31: 875-876 (Oct. 1961).
Results obtained from the investigation of 5 more rayon specimens whose x-ray diffractograms were analyzed in the same way as described in Part 1 (abstr. 3720/61) are reported. (5816)

SOME ASPECTS OF CAPILLARY ABSORPTION IN FIBROUS TEXTILE WICKING. R. D. Laughlin and J. E. Davies (HRB-Singer Research Labs.). Textile Research J. 31: 904-910 (Oct. 1961).
An experimental study of the rate of capillary absorption in the porous media commonly called wicking has been made. Data are presented on rates of fluid rise in vertically suspended samples of cotton and felt wicking, along with mass absorption rates. Deviations from an assumed model of capillary flow are given. Techniques for finding the coefficients of an approximate flow equation, and a method for calculating the amount of fluid absorbed as a function of wick length are presented. 8 refs. (5817)

EFFECT OF NITROSATION OF TYROSYL GROUPS ON VARIOUS PROPERTIES OF WOOL. PART 2. M. Leveau. Bull. Inst. Textile France No. 93: 75-80 (1961). In French. Through J. Textile Inst. 52: A522 (1961).
Nitrous acid-treated wool was analyzed chromatographically for amino-acid content. All the amino acids were more or less affected by the treatment, but especially lysine, phenylalanine and tyrosine. For tyrosine, the results did not agree with those from direct colorimetric analyses on hydrolysates by Folin's method. The reasons for this discrepancy are discussed. (5818)

CHELATING AGENTS IN DETERGENTS. J. J. Singer, Jr. (Hampshire Chem. Corp.). Soap Chem. Specialties 37: 49-51, 125-126 (Oct. 1961). (5819)

Physics G2

ON THE VARIATION OF ELECTRICAL RESISTANCE OF A POLYMER AS A FUNCTION OF THE EXTENT AND NATURE OF SORBED WATER. K. Kawasaki (Electrotechnical Lab., Tokyo). J. Colloid Sci. 16: 405-410 (Aug. 1961). (5820)

USE OF RADIATION IN THE TEXTILE INDUSTRY. S. Okamura (Kyoto Univ.). J. Textile Machy. Soc. Japan 7: 1-3 (July 1961).
The successful use of radiation for such reactions as oxidation, chlorination, sulfonation, radiation polymerization and graft polymerization in the Japanese textile industry is reviewed. 33 refs. (5821)

RHEOLOGY OF RESINOUS COATING MATERIALS. D. H. Briggeman (Gen. Elec. Co.). Modern Plastics 38: 150, 152, 210-211 (June 1961).
A procedure is described for determining the flow properties of coating materials. (5822)

ELIMINATION OF STATIC ELECTRICITY. N. Murasaki. J. Textile Machy. Soc. Japan 7: 37-48 (July 1961).
The circuit theory suggests that a series of resistances or an external electromotive force can reduce the static charge on textiles. A series of experiments verifying this hypothesis are reported, and a device for neutralizing static charge by means of a roller with electric potential has been developed and is compared with the conventional apparatus which uses corona discharge. See also abstr. 4997/60, 1147/61, 1519/61, and 4072/61. (5823)

MISCELLANY H

INTERNATIONAL KNITTING MACHINERY AND ACCESSORIES EXHIBITION, MANCHESTER, OCT. 11-21, 1961. Hosiery Trade J. 68: 167-223 (Oct. 1961).
Classified preview of exhibits. (5824)

INTERNATIONAL KNITTING MACHINERY EXHIBITION: DOUBLE KNIT MACHINERY TRENDS. C. Reichman. Knitted Outerwear Times 30: 35, 78-79 (Oct. 23, 1961). (5825)

INTERNATIONAL KNITTING MACHINERY EXHIBITION: SWEATER-STRIP UNITS. C. Reichman. Knitted Outerwear Times 30: 21, 31 (Oct. 30, 1961). (5826)

SOCIETY OF DYERS AND COLOURISTS SYMPOSIUM, BRISTOL, SEPTEMBER 20-22, 1961. Dyer 126: 491-496 (Oct. 6, 1961).
Brief abstracts of the following papers are given: Effect of heat-setting treatments on dyeing behavior of nylon yarns and fabrics, by H. W. Peters and T. R. White, p. 492, 494; Practical problems in preparation and dyeing of cross-wound packages, by J. Whittaker, p. 494-495; Dyeing chrome-tanned leather with the aid of ethylene oxide leveling agents, by J. Herndl and W. Haldemann, p. 495-496. (5827)

POLYMER SCIENCE IN THE UNIVERSITY. G. Gee (Univ. Manchester). Chem. & Ind. No. 36: 1428-1432 (Sept. 9, 1961).
The advisability of including in the undergraduate curriculum the basic principles pertaining to the chemical structures and methods of synthesis of polymers and to their physical properties is discussed. (5828)

GROWTH OPPORTUNITIES IN TEXTILES. Modern Textiles Mag. 42: 49-64 (Sept. 1961).
This special section on new textile markets includes the following articles: Laminates, by A. J. Callahan, p. 50-52; Textured yarns, by W. H. Poisson, p. 55-57; Woven stretch fabrics, by J. A. Martini, p. 58-61; Circular knitting, p. 62-63; Paper yarns, p. 64. (5829)

TEXTILE INSTITUTE CONFERENCE ON CREASE RESISTANCE AND CREASE RECOVERY, SCHEVENINGEN, HOLLAND, SEPTEMBER 7-12, 1961. Textile Merc. 145: 346-349 (Sept. 15, 1961).
Brief abstracts of the following papers presented are given: Fabric properties and their relation to crease-proofing effects, by R. Steele; Some effects of the nature of cross-links on the properties of cotton fabrics, by W. A. Reeves; Mercerizing of cotton and its effects on crease-resistance and crease-recovery, by H. Borsten; Behavior of resin-finished cotton towards caustic soda solution, by E. Plotz; Some fundamental-theoretical and experimental aspects on fabric creasing, by C. Bostwick, B. Behre, and M. Karrholm; Attainment of minimum-iron properties in cellulosic materials, by H. Corteen; Experimental development of methods for the production of durable creases and crease-resistance in wool fabrics, by A. N. Davidson and F. O. Hewitt; Crease-recovery of polyvinyl alcohol fibers, by C. van Bochove and M. M. Zwick; Effect of temperature on the crease-recovery of fabrics made from synthetic fibers, by J. A. Edelston and K. W. Hillier; Assessment of crease-resistance and crease-recovery, by J. Lako and L. S. Veer. (5830)

COTTON INDUSTRY IN PERU. H. G. Porter. U. S. Foreign Agric. Serv., Wash., D.C. Sept. 1961. 12 p. FAS M-121.
Contents: Cotton production; Cotton exports; The Peruvian textile industry; Prospects for cotton development. (5831)

COMPETITION BETWEEN COTTON AND MANMADE FIBERS IN WESTERN EUROPE. B. M. Hornbeck. U. S. Foreign Agri. Serv., Washington, D. C. June 1961. 61 p. Foreign agriculture report no. 118. Available from Superintendent of Documents, Washington 25, D. C. 25¢. (5832)

CLOTHES MOTHS AND CARPET BEETLES: HOW TO COMBAT THEM. U. S. Agri. Mktg. Service. Washington, D. C. 1961 (rev.). 12 p. Home and garden bull. no. 24. Available from Superintendent of Documents, Washington 25, D.C. $0.15. (5833)

TECHNICAL REPORT ON MASTER PRODUCTS FOR TEXTILE INDUSTRIES. Japan Technical Report Publication Bureau, Tokyo, Japan. 1961. 142 p. No. 5.
Brief description of new products and machines in English and Japanese under the general headings: textile chemicals; finishing resins; synthetic fiber machines; looms and accessories; weaving preparatory machines; looms, knitting machines, and accessories; dyeing and finishing machines; testing machines; automatic controls. (5834)

WORLD'S WEAVING INDUSTRY. Sulzer Freres SA. Textile Merc. 145: 115-119 (July 28, 1961).
Survey shows interrelationship of national income, cloth output, and productive capacity. (5835)

MODERN PLASTICS ENCYCLOPEDIA FOR 1962. Plastics Catalogue Corp., Emmett St., Bristol, Conn. Sept. 1961. 1211 p. $4.00.
Contents: A guide to plastics; Resins and molding compounds; Foamed plastics; Chemicals and additives; Film, sheeting, and shapes; Fillers and reinforcements; Laminates and reinforced plastics; Engineering and methods; Fabricating and finishing; Machinery and equipment; Free product literature; Directory. Two separate plastics properties charts. (5836)

PATENT CHECKLIST

U.S. patents may be obtained from the U.S. Patent Office, Washington 25, D.C., for 25¢ a copy. Photostatic copies of foreign patents are also available. Charges for these photostats are based on the number of pages in the patent.

FIBERS A

Natural fibers A1

WOOL PRESSES. T. V. Slattery (Australia). USP 2 993 546, July 25, 1961.
Attachment for enabling the weight of wool in a bale to be determined prior to its removal from the press. (5837)

Manmade fibers A2

CENTRIFUGAL APPARATUS FOR PRODUCING CURLY GLASS FIBERS. C. J. Stalego (to Owens-Corning Fiberglas Corp.). USP 2 998 620, Sept. 5, 1961. (5838)

PILL RESISTANT, HOLLOW POLYESTER FILAMENTS. A. L. Breen and G. Pamm (to E. I. du Pont de Nemours & Co.). USP 2 999 296, Sept. 12, 1961. (5839)

YARN PRODUCTION B

TOW PLAITING MACHINE. A. A. Atkins and D. V. Owen (to Courtaulds Ltd). BP 877 188, Sept. 13, 1961. (5840)

EDGE CRIMPING APPARATUS FOR ELASTICIZED THERMOPLASTIC YARNS. Deering Milliken Research Corp. BP 877 416, Sept. 13, 1961.
See abstr. 1167/60 (USP 2 921 358). (5841)

MOUNTING MEANS FOR YARN HANK SUPPORTING FRAMES IN LIQUID IMMERSION TANKS. W. Foster (to T. Bibby & Co.). BP 877 818, Sept. 20, 1961. (5842)

STUFFER CRIMPER AND PACKAGING APPARATUS. C. J. Russo, A. L. Trifunovic, and H. A. Sinski (to Joseph Bancroft & Sons Co.). USP 2 997 747, Aug. 29, 1961.
Filament yarns having a crimp fast to washing and dry-cleaning are obtained by winding the crimped filaments, as they are discharged from the stuffer crimper, onto a pervious support in helical layers held compacted by means of a tape. This permits the filaments to be subjected to a more extended setting treatment than can be obtained in the usual stuffer crimper. (5843)

ALKALINE TREATMENT OF POLYETHYLENE TEREPHTHALATE FILAMENTS TO IMPROVE PROCESSING. G. Hennemann (to NV Onderzoekings-inst. Research). USP 2 998 296, Aug. 29, 1961. (5844)

FEED MECHANISM FOR STUFFER BOX CRIMPING APPARATUS. E. H. Shattuck and A. A. Benedek (to Joseph Bancroft & Sons Co.). USP 3 000 060, Sept. 19, 1961. (5845)

METHOD OF SETTING STUFFER BOX CRIMPED FIBERS. C. J. Russo, A. L. Trifunovic, and H. A. Sinski (to Joseph Bancroft & Sons Co.). USP 3 000 059, Sept. 19, 1961.
Means for discharging crimped fibers from the stuffer box in the form of a compact core, reeling to form a package for crimp setting, and withdrawing and winding the crimp set fibers. (5846)

Carding and combing B2

APPARATUS FOR REMOVING FOREIGN BODIES FROM CARDED WORSTED WEBS. R. O. Ingram (to King's Lea Corp.). USP 2 997 748, Aug. 29, 1961.
Rotating cylinders used in combination with a worsted card to effect crushing of foreign material are driven by independent, synchronized means to prevent backlashing due to torque variation, thus eliminating any tendency towards fiber scuffing. (5847)

Drawing and roving B3

WINDING TENSION CONTROL MECHANISM FOR ROVING FRAMES G. G. Fornes and J. H. Robinson (to Inst. Textile Technology). USP 2 996 870, Aug. 22, 1961.
The bobbin speed and roving tension are controlled by means of a flat cam, the rotational displacement of which is caused by the displacement of the tension gears upon completion of each layer of roving. (5848)

SLIVER FEED DEVICE FOR DRAWFRAMES. L. Vella (Italy). USP 2 997 749, Aug. 29, 1961.
See abstr. 4607/60 (BP 836 270). (5849)

COILING MACHINE. J. A. Bradshaw. USP 3 000 075, Sept. 19, 1961.
Device for depositing textile strands, e.g. sliver, into untwisted, overlapping, frictionally bound coils in which the free end can be withdrawn for subsequent operation without stopping the machine. (5850)

Spinning, winding, twisting B4

SPINNING RING LUBRICATION. A. J. Wayson (to Merriman Bros.). USP 2 996 871, Aug. 22, 1961.
The individual reservoirs associated with each of the sintered metal rings are supplied from a central source, the rate of oil delivery being controlled by means of metering felts. (5851)

DOFFING APPARATUS FOR RING SPINNING MACHINES. F. Leach and H. Shenton (to Permo Spinning Ltd). USP 2 997 836, Aug. 29, 1961.
The filling and selective doffing of the individual spindles are effected in a predetermined sequence, the ring at a full package being moved to its lowest position prior to doffing independently of the movements of the other rings. (5852)

METHOD OF MOLDING PLASTIC TRAVELERS WITH WIRE INSERTS. L. H. Morin (to Coats & Clark Inc.). USP 2 999 276, Sept. 12, 1961. (5853)

TWISTING SPINDLE BALLOON CONTROL. A. W. Vibber. USP 3 000 170, Sept. 19, 1961.
Flyer with replaceable tension device for use in conjunction with a singles supply twisting spindle to effect balloon control during ply yarn production. (5854)

Yarns B5

COMPOSITE YARNS OR CORDS. Z. K. Porczynski (to Scandura Inc.). USP 2 996 872, Aug. 22, 1961.
See abstr. 4177/61 (BP 854 279). (5855)

METHOD FOR PRODUCING MULTICOLORED SINGLE YARN. W. M. Armstrong (to Callaway Mills Co.). USP 2 996 873, Aug. 22, 1961.
A simulated ply yarn is produced by drafting slivers of different colored fibers in a common zone while maintaining color separation, independently condensing the fibers of different colors to form pseudo-slivers of different colors, condensing all of the pseudo-slivers into a single untwisted sliver in which fibers of each color are concentrated together, and spinning a yarn directly from the sliver. (5856)

DISPOSABLE BICONICAL YARN TUBE. R. Sibille (to Papeteries René Sibille). USP 2 997 252, Aug. 22, 1961. (5857)

AIR JET DEVICE FOR THE PRODUCTION OF BULK YARNS. H. L. Martyn (to Courtaulds Ltd). USP 2 997 771, Aug. 29, 1961.
The jet consists of a hollow body portion with an air inlet, a yarn exit tube leading out of the body portion, and a yarn entrance tube coaxial with the exit tube and extending slightly into it while leaving an annular passage for air between them. The wall of the exit tube has a hole communicating with the interior of the body portion in the vicinity of the entrance tube end, and the air inlet is adapted to direct entering air towards the overlapping ends of the exit and entrance tubes in a direction at right angles to the axes of the tubes. (5858)

SLUB YARN. A. L. Breen and M. V. Sussman (to E. I. du Pont de Nemours & Co.). USP 2 997 837, Aug. 29, 1961.
The yarn is composed of a continuous filament carrier yarn with staple fiber slubs containing both S and Z twist. (5859)

NOVELTY PLIED, CRIMP YARNS. H. A. Sinski (to Joseph Bancroft & Sons Co.). USP 2 997 838, Aug. 29, 1961.
Two or more yarns with latent crimp are plied together under different tensions and subsequently relaxed to produce a crimp with random variations along the yarn. (5860)

APPARATUS FOR PRODUCING BULK VISCOSE YARN. H. H. Penland (to Am. Enka Corp.). USP 3 000 168, Sept. 19, 1961.
Freshly extruded multifilament viscose yarn is stretched and subjected to the action of an air jet while traveling through a zone of reduced tension. (5861)

SLUB YARN. T. B. Davenport and A. G. New (to Deering Milliken Research Corp.). USP 2 999 351, Sept. 12, 1961.
Continuous multifilament yarns with alternately spaced bulked and unbulked segments are claimed. (5862)

FABRIC PRODUCTION C

Warping, slashing, yarn preparation C1

GLASS FIBER TREATMENT FOR RESIN REINFORCEMENT. G. E. Eilerman (to Pittsburgh Plate Glass Co.). USP 2 994 619, Aug. 1, 1961.
An aqueous size which can be applied to glass fiber strands during their formation and which provides the strands with improved resin reinforcing properties consists of a dispersion of a synthetic latex, softener, and an alkenyl triacyloxy silane in an aqueous medium. (5863)

APPARATUS FOR PREVENTING SIZE ACCUMULATION ON SLASHER SIZE BOX ROLLS. T. F. Suggs (to Cocker Mach. & Foundry Co.). USP 2 996 785, Aug. 22, 1961. (5864)

YARN WAXING ATTACHMENT FOR WINDING MACHINES. C. A. Steele (to Leesona Corp.). USP 2 997 017, Aug. 22, 1961.
In order to prevent entanglement of broken yarn strands with the waxing device and subsequent machine stoppage, the broken strand is withdrawn so that the waxing device may be rethreaded. (5865)

YARN ENGAGING MEANS FOR WINDING MACHINES. J. V. Keith and C. A. Steele (to Leesona Corp.). USP 2 998 202, Aug. 29, 1961.
Means for securing a continuously advancing filament to the spindle of a winding machine to initiate the winding cycle. (5866)

WINDING MACHINE MULTI-GROOVE TRAVERSE ROLL. T. E. Pitts (to Leesona Corp.). USP 2 998 203, Aug. 29, 1961. (5867)

Weaving C2

REINFORCED PICKER STICK CHECK STRAP. C. R. Messer (to Page Belting Company). USP 2 997 072, Aug. 22, 1961.
The strap consists of inner and outer plies of leather united in the form of a loop with a reinforcing band of textile strands interposed between the plies, the band having a half twist in each side portion. (5868)

STOP MOTION DEVICE FOR LOOM REPLENISHING MEANS. R. E. Morton (to Leesona Corp.). USP 2 997 073, Aug. 22, 1961.
Device for arresting the transfer of a canted bobbin from a reserve bobbin magazine to the shuttle of a loom. (5869)

WEFT INSERTION NOZZLE FOR JET LOOMS. S. Zahradnik (to Sdruzeni Podniku Textilniko Strojirenstvi). USP 2 998 029, Aug. 29, 1961.
A rubber element instead of a steel spring is used to exert closing pressure on the conical closure of the nozzle. (5870)

LOOM FOR WEAVING SHAPED FABRICS. E. Koppelman and A. R. Campman (to 3-D Weaving Co.). USP 2 998 030, Aug. 29, 1961.
See abstr. 5349/61 (BP 871 742 and BP 871 743). (5871)

SHUTTLE BOXING MECHANISM FOR FLY SHUTTLE LOOMS. E. C. Nichols and C. P. Powell (to Draper Corp.). USP 2 999 516, Sept. 12, 1961.
Mechanism which acts, after the shuttle has been picked into the box, to position the shuttle at a precise reference point on successive picks of the loom. (5872)

LOOM PICKER BEARING. L. A. Runton and H. C. Morton (to Russell Mfg. Co.). USP 3 000 076, Sept. 19, 1961.
The picker is lined, where it rides on the picker rod, with a phenolic resin bonded fabric having a bearing surface consisting essentially of a low friction yarn. (5873)

Knitting C3

ARGYLE PATTERNING MECHANISM. N. Levin. USP 2 996 903, Aug. 22, 1961.
Four feed circular hosiery machine with means for knitting a true crossed color overplaid design in solid color suture joined pattern areas by the use of only four overplaid design yarns. (5874)

CUT PILE FORMATION IN CIRCULAR KNIT PILE FABRICS. B. Stevens, Jr. (to Ames Textile Corp.). USP 2 996 904, Aug. 22, 1961.
The pile yarn loops are cut by a rotating crushing wheel while the loops are retained in extended condition by the dial elements. (5875)

WARP KNIT KNOTLESS NETS. W. H. Scheibe (Germany). USP 2 996 905, Aug. 22, 1961. (5876)

WARP FABRIC WITH INTERKNITTED RUBBER YARNS. A. Ichibe (Japan). USP 2 996 906, Aug. 22, 1961.
Warp knit fabric, stretchable in any direction and free from fraying or slipping at its cut edges, is composed of alternating courses of nonelastic and rubber yarn and wales consisting of alternating stitch loops of nonelastic and rubber yarn. (5877)

CIRCULAR KNITTING MACHINES. M. Philip. USP 2 997 865, Aug. 29, 1961.
Loop transfer mechanism which provides for the selective knitting of jersey and rib or eyelet fabrics without the use of a racking or speed reduction mechanisms. By the inclusion of a racking mechanism the machine can produce both rib fabric and eyelet stitches. (5878)

MAGNETIC LATCH OPENER AND DEMAGNETIZER FOR KNITTING MACHINE NEEDLES. J. M. Ashe and C. S. Ost. USP 2 997 866, Aug. 29, 1961. (5879)

WRAP STRIPING MECHANISM FOR CIRCULAR HOSIERY MACHINES. A. P. Saunders (to Wildt Mellor Bromley Ltd). USP 2 999 375, Sept. 12, 1961.
Cam system for positively controlling the wrap thread elements and for preventing the radial movements of the non-selected elements to reduce the possibility of needle breakage. (5880)

PATTERN CHAIN FOR WARP KNITTING MACHINES. O. Engelhard (to Native Laces & Textiles, Inc.). USP 2 997 867 and 2 997 868, Aug. 29, 1961.
The chain is composed of links having flat parallel sides to permit adjacent links to be connected to each other in an overlapping side-by-side relation. (5881)

MEANS FOR HOLDING KNITTED SWIMSUIT BLANKS FLAT. E. D. Estephanian (to M.K.M. Knitting Mills). USP 2 998 630, Sept. 5, 1961.
Apparatus for stretching seamless, three-dimensional front panels of women's swimwear into a planar condition for screen printing without undesirable distortion. (5882)

AUTOMATIC SELECTIVE DOFFING DEVICE FOR LOOPING MACHINES. H. L. Beamon (to Hanes Hosiery Mills Co.). USP 2 999 470, Sept. 12, 1961. (5883)

AUTOMATIC HOSIERY INSPECTING, STACKING, AND BUNDLING APPARATUS. G. T. Smith (to Marvel Specialty Co.). USP 2 999 618, Sept. 12, 1961. (5884)

Fabrics C4

APPARATUS FOR CONTINUOUS MANUFACTURE OF SMOOTH AND CORRUGATED GLASS FIBER REINFORCED LAMINATES. Deutsche Akademie der Wissenschaften zu Berlin. BP 871 329, June 28, 1961. (5885)

ROTARY CAGE CONDENSER FOR DEPOSITING UNIFORM WEBS FROM AIRBORNE FIBERS. R. Greenwood (to T.M.M. (Research) Ltd). BP 871 700, June 28, 1961. (5886)

DECORATIVE COLOR EFFECTS IN GLASS FIBER REINFORCED LAMINATES. C. Gadani and U. Gadani (Italy). BP 871 751, June 28, 1961.
The glass fiber or fabric is printed in accordance with a predetermined pattern prior to impregnation with and polymerization of the synthetic resin. (5887)

TUFTED CARPETS. W. Dawson (to Imp. Chem. Inds. Ltd). BP 873 940, Aug. 2, 1961.
The base fabric contains a proportion of plasticized vinyl chloride or vinyl acetate polymer filaments interwoven with the stuffer threads and the tufts are anchored by applying heat to fuse the filaments. (5888)

PAPER FROM CELLULOSE AND NYLON FIBERS. Soc. Viscose Suisse. BP 874 249, Aug. 2, 1961.
Paper with excellent porosity and wet strength from a mixture of cellulose and nylon fibers is obtained by the use of N-alkoxy polyamide resin as a binding agent. (5889)

DECORATIVE MOTIFS BY OVERWEAVING AND SEALING WARP ENDS. H. Rhodes (to H. Rhodes & Son Ltd). BP 874 323, Aug. 2, 1961.
Decorative motifs are applied to woven fabrics by overweaving additional warp ends into the fabric and sealing the ends on the reverse side of the fabric by means of a resin or rubber coating. The production of reversible jute carpets is cited as an example. (5890)

ABSORBENT SURGICAL WADDING FROM CARDED HIGH CRIMP RAYON. F. C. Brenner and G. J. Liloia. BP 877 296, Sept. 13, 1961. (5891)

APPARATUS FOR THE CONTINUOUS PRODUCTION OF CORRUGATED SHEETS OF GLASS FIBER-REINFORCED POLYESTER RESINS. E. M. Bayer (Germany). BP 876 475, Sept. 6, 1961. (5892)

POWER TRANSMISSION AND CONVEYOR BELTING. S. B. Hainsworth and G. E. Watts (to J. H. Fenner & Co. Ltd). BP 876 525, Sept. 6, 1961.
The surface resistivity of polyvinyl chloride impregnated and/or coated multi-ply belting is reduced by applying a coating of electrically conductive carbon to the belting when the polyvinyl chloride is at least partially gelled. (5893)

TUFTED CARPETS. J. O. Smith and R. C. Greenlees (to Courtaulds Ltd). BP 876 715, Sept. 6, 1961.
The appearance and handle of tufted carpets containing crimped viscose pile yarns is improved by treating the yarn or the carpet with a swelling agent, e.g. caustic soda. (5894)

FLAMEPROOF NONWOVEN FABRICS. Carl Freudenberg KG. BP 876 901, Sept. 6, 1961.
Fiber webs are impregnated with a mixture of bonding and flameproofing agents and heated to form durable flameproof structures. (5895)

FABRICS CONTAINING ELECTRIC HEATING ELEMENTS. E. V. Giles (England). BP 876 929, Sept. 6, 1961.
Machine for producing a composite yarn consisting of a core of glass fibers, a copper wire wound on the core, and a covering of asbestos and for uniting the yarn into a fabric by means of an insulating adhesive. (5896)

POLYPROPYLENE FIBER SACKS. Montecatini Soc. Gen. l'Ind. Mineraria Chimica. BP 877 542, Sept. 13, 1961. (5897)

RESILIENT BONDED FIBROUS MATERIALS FOR UPHOLSTERY AND SHOCK-ABSORBING MATERIALS. P. Merriman (to Dunlop Rubber Co. Ltd). BP 877 900, Sept. 20, 1961.
A mass of resilient fibers bonded together at intervals by the reaction product of a diisocyanate and a polyglycol is claimed. (5898)

APPARATUS FOR MAKING PATTERNED TUFTED PILE FABRIC. J. L. Card (to Cobble Bros. Machy. Co.). USP 2 966 866, Jan. 3, 1961.
Yarn feed mechanism for forming pile loops of different lengths in selected areas according to a predetermined pattern. (5899)

SHOE LACES. D. W. Light (to Pepperell Braiding Co.). USP 2 992 584, July 18, 1961.
Durability and good knotting characteristics are obtained by braiding permanently crimped nylon yarns containing crimped filaments. (5900)

CELLULOSE COATING FOR IMPROVED RUBBER BONDING. T. B. Gage (to E. I. du Pont de Nemours & Co.). USP 2 993 825, July 25, 1961. (5901)

TEMPORARY MARKING OF TEXTILE ARTICLES. P. Meyer, V. E. Yarsley, and W. Titow (to Polymark Ltd). USP 2 998 631, Sept. 5, 1961.
See abstr. 5057/60 (BP 838 500). (5902)

CYANOETHYLATED CELLULOSE PAPER. J. E. Jayne (to Kimberly-Clark Corp.). USP 2 994 634, Aug. 1, 1961.
Process for cyanoethylating cellulose pulp fibers and bonding the resultant fibers into a paper sheet. (5903)

FIBER REINFORCED LAMINATES. H. G. Lauterbach (to E. I. du Pont de Nemours & Co.). USP 2 996 411, Aug. 15, 1961.
A needle-punched batt consisting of synthetic fibers is claimed as the reinforcing material. (5904)

PAPERMAKERS FELT. H. M. Helland (to Lockport Felt Co.). USP 2 996 786, Aug. 22, 1961.
The felt is composed of slightly twisted, parallel strands of card roping interlocked by means of a zig-zag pattern. (5905)

TUFTING MACHINE CLAMP CUTTER. H. W. Ballard (to James Lees & Sons Co.). USP 2 997 009, Aug. 22, 1961.
In a skip-stitch tufting machine for producing intermittent uncut pile projections, a spring loaded clamp cutter is provided for cutting yarn ends while the needle is retracted without causing ravelling of previously tufted pile projections. (5906)

VARIANT-HEIGHT-LOOP TERRY FABRICS. M. A. Law (to Fieldcrest Mills). USP 2 997 074, Aug. 22, 1961.
Fabrics with alternating high and low loops in selected warpwise and weftwise rows are claimed. (5907)

SINGLE SHOT WEAVE VELVET PILE CARPETS. H. F. Nowicki (to James Lees & Sons Co.). USP 2 997 075, Aug. 22, 1961.
Method of weaving alternately colored pile warps over warpwise aligned crests and valleys in successive series of undulating or profile pile wires to provide a self-tone effect by correlating gradual differences in pile height with corresponding differences in pile height with corresponding differences in color, yarn weight, yarn twist, and types of fibers. (5908)

MULTIPLE STAGE METHOD AND APPARATUS FOR CURING BONDED GLASS FIBER MATS. A. R. Morrison, J. A. Apellaniz, and B. D. Wise (to Owens-Corning Fiberglas Corp.). USP 2 997 096, Aug. 22, 1961. (5909)

PIGMENTED RAYON FIBERS WITH ENHANCED ADHESION TO RUBBER. R. B. Hill (to Monsanto Chem. Co.). USP 2 997 420, Aug. 22, 1961.
Improved bonding between rubber and fibers in the form of cords, yarns, fabrics, and filaments is obtained by applying to the fibers an aqueous dispersion of a finely divided mineral pigment and a styrene butadiene latex, embedding the fiber in a sulfur vulcanizable natural or synthetic rubber matrix, and vulcanizing. (5910)

CONVEYOR BELTING. S. Birt (to Gandy Ltd). USP 2 998 031, Aug. 29, 1961.
To prevent spilling of goods while maintaining a uniform distribution, the belt is woven to provide two longitudinal flexing zones by the omission of warp ends in those areas. (5911)

SYNTHETIC FIBER FIBRID PAPER. P. W. Morgan (to E. I. du Pont de Nemours & Co.). USP 2 999 788, Sept. 12, 1961. (5912)

GLASS FIBER LAMINATES. K. Sittel (to Walsco Co.). USP 2 998 048 and 2 998 051, Aug. 29, 1961.
Apparatus for alternately depositing charged fibers and binder resin particles on a base by electrostatic means and simultaneously vibrating the base and removing the surface charge developed. (5913)

PRODUCTION OF NONWOVEN FABRICS BY PAPERMAKING TECHNIQUES. W. E. Carlson (to St. Regis Paper Co.). USP 2 998 344, Aug. 29, 1961.
Bonded nonwoven synthetic fiber fabrics are produced by preparing a slurry of the fibers with water, incorporating a starch binder and a melamine-formaldehyde precondensate into the slurry, and feeding the resultant mixture to a papermaking machine. (5914)

DRAPERY FABRIC. H. Horowitz. USP 2 998 829, Sept. 5, 1961.
Included with the normal weft and warp strands of a woven fabric there are relatively heavy slidable warp strands to permit the fabric to be drawn up into a ruffled form. (5915)

FIBER REINFORCED TEAR-RESISTANT LAMINATES. R. P. Lappala (to Griffolyn Co.). USP 2 999 041, Sept. 5, 1961.
The laminates consist of two sheets of flexible resin films between which are interposed a layer of polymeric foam and nonwoven fiber grids in a permanently tacky layer of adhesive between the foam and resin films. (5916)

BACKINGS FOR TUFTED CARPETS. H. A. Schwartz (to Patchogue-Plymouth Corp.). USP 2 999 297, Sept. 12, 1961.
The backings are woven entirely from waxed, twisted, paper yarns or from a waxed, twisted, paper yarn and an elastic nylon yarn. (5917)

FISH NETS. K. Momoi (Japan). USP 2 999 413, Sept. 12, 1961.
The fish nets are made from cords of twisted core yarns consisting of a sheath of polyvinyl fiber and a nylon core. (5918)

GRAFT COATED POLYETHYLENE OR NYLON PLASTICS. R. E. Burk and E. H. Price (to E. I. du Pont de Nemours & Co.). USP 2 999 772, Sept. 12, 1961.
The coated plastics consist of a polyethylene substrate coated with polytetrafluoroethylene or polymethyl methacrylate or a nylon substrate coated with polytetrafluoroethylene. Solvent extraction does not remove the grafted coating and the products are crack resistant. (5919)

ELASTOMERIC BONDING AGENT FOR FIBROUS SHEET MATERIALS. W. Graulich, G. Sinn, C.-L. Nottebohm, and R. Schabert (to Farbenfabriken Bayer AG and Carl Freudenberg KG). USP 2 999 773, Sept. 12, 1961.
See abstr. 3403/60. (5920)

FINISHING D

Chemical processes D1

FESTOONING DEVICE FOR WET PROCESSING OF FABRICS. D. W. Archibald (Northern Ireland). USP 2 993 356, July 25, 1961. (5921)

DELUSTERING OF TEXTILE MATERIALS. A. C. Kennett (to Brit. Oxygen Co. Ltd). BP 875 844, Aug. 23, 1961.
A washfast and abrasion resistant delustering effect is obtained by treating textile material in the form of filaments, yarns, or fabrics with a mixture containing an emulsion of a vinyl acetate or acrylic polymer and calcium hydroxide, calcium nitrate, or barium hydroxide and subsequently treating the material with sodium carbonate or sulfate. (5922)

SULFUR TETRAFLUORIDE AS A WATERPROOFING AGENT FOR CELLULOSE FABRICS. A. K. Schneider and J. C. Thomas (to E. I. du Pont de Nemours & Co.). USP 2 983 626, May 9, 1961. (5923)

OPTICAL BRIGHTENING OF POLYETHYLENE TEREPHTHALATE FIBERS. R. V. Youle, J. S. M. Robertson, and J. C. Robinson (to Imp. Chem. Inds. Ltd). USP 2 992 206, July 11, 1961.
Anthradipyridazone optical brightening agents are added to the polyester forming reactants or incorporated directly into the polymer by melt-blending. (5924)

METHOD OF COATING DACRON FABRICS WITH POLYETHYLENE. W. Ferrell, M. W. Olson, and I. D. Dobbs (to U. S. Rubber Co.). USP 2 994 940, Aug. 8, 1961.
Coated fabrics, resistant to delamination on exposure to 90% peroxide, are obtained by extruding melted polyethylene onto one side only of a continuously running length of closely woven fabric having numerous free filament ends and thread loops extending from its surface. The fabric is cooled on its uncoated side during extrusion so that the polyethylene only partially penetrates the fabric, and following extrusion, the coated fabric is cooled in water to cause shrinkage of the fabric and plastic and their mechanical interlocking. (5925)

PROCESS FOR PRODUCING DELUSTERED ACETATE FIBERS. P. Ernst (to Wacker-Chemie GmbH). USP 2 995 416, Aug. 8, 1961.
A precondensate of melamine and formaldehyde is added to the spinning solution and the resultant fibers are boiled in water. (5926)

SURFACE ACTIVE AGENTS FOR USE IN APPLYING WATER REPELLENTS. E. B. Lawler and K. D. Ballou (to Am. Cyanamid Co.). USP 2 997 407, Aug. 22, 1961.
Surface active agents which possess a high wetting-out action without interfering with the later water-repellency of the treated textiles consist of the ammonium soups of mixtures of rosin or abietic acid and higher fatty acids. (5927)

APPARATUS FOR BONDING OPEN MESH WOVEN FABRICS. G. O. Etchison (to West Point Mfg. Co.). USP 2 997 772, Aug. 29, 1961. (5928)

PROCESS FOR THE IMPROVEMENT OF NYLON FIBERS. K. Goldann (to Bohme Fettchemie GmbH). USP 2 998 295, Aug. 29, 1961.
Nylon fibers with improved dye affinity, wetting, and antistatic properties are obtained by reacting them with small amounts of hydroxyalkylating agents. (5929)

SOIL-RESISTANT VISCOSE FIBERS. J. W. Schappel (to Am. Viscose Corp.). USP 2 999 774, Sept. 12, 1961.
The fibers are treated with an aqueous suspension of silica containing a salt of a multivalent metal. (5930)

GLASS FIBER POLYESTER LAMINATES. M. Wismer and R. R. Rabenold (to Pittsburgh Plate Glass Co.). USP 2 999 834, Sept. 12, 1961.
The glass fiber mats are mixed with polymerizable or interpolymerizable mixtures containing a peroxide polymerization catalyst. (5931)

Dyeing and printing D2

DYEING COTTON/POLYESTER FIBER BLENDS. Ciba Ltd. BP 877 230, Sept. 13, 1961.
A foularding solution or printing paste containing a finely dispersed non-reactive pigment dye, urea, a reactive anthraquinone or azo dye containing a monochloro-1:3:5-triazine residue, and an acid-binding agent is claimed. (5932)

PROCESS FOR DYEING WOOL FIBERS WITH REACTIVE DYES. Ciba Ltd. BP 878 021, Sept. 20, 1961.
The fibers are treated in an aqueous medium containing a dye with at least 2 sulfonic acid groups and one reactive halogen atom bound to a pyrimidine or 1:3:5-triazine ring and the reaction product of an alkylene amine with an appropriate primary, secondary or tertiary amine. (5933)

CHROMIUM- OR COBALT-CONTAINING MONOAZO DYES FOR SPUN DYED ACETATE. J. R. Geigy AG. BP 878 024, Sept. 20, 1961. (5934)

NOVEL EFFECTS ON POLYESTER FABRICS BY USING PRINTING PASTES HAVING A DECOMPOSING EFFECT. J. Nüsslein and C. Kuch (to Farbwerke Hoechst AG). USP 2 990 231, June 27, 1961.
Novel effects on polyester fabrics are obtained by printing selected areas with a paste consisting of a thickening agent and guanidine carbonate and steaming the fabrics to effect fiber destruction in the printed areas. (5935)

CARPET EDGE CONTROL DEVICE FOR ENCLOSED DYE KETTLES. W. K. Cutten and J. McNutt (to James Lees & Sons Co.). USP 2 997 871, Aug. 29, 1961. (5936)

DYEING WOOL TO PRODUCE INGRAIN AND MELANGE EFFECTS. A. J. I. Harding (to Woodlyn Corp.). USP 2 999 731, Sept. 12, 1961.
Nonuniform dyeing of a single type of pure, unchlorinated wool is produced by treating the wool with an aqueous solution containing (1) a condensate of an aldehyde and an aromatic sulfuric acid to alter the dyestuff affinity of some of the amino acids, (2) acetic or formic acid, and (3) a dye containing at least two sulfonic acid groups at a pH of 2.8 to 4.9. (5937)

Mechanical processes D3

FABRIC BRUSHING DEVICE FOR SHEARING MACHINES. J. M. D. Tomlinson (to Tomlinsons Ltd). BP 876 154, Aug. 30, 1961. (5938)

SHRINKPROOFING PROCESS FOR KNIT AND WOVEN COTTON FABRICS. Ruegger & Co. BP 876 166, Aug. 30, 1961.
The fabric is stretched by 5 to 30% along its length and subjected to the action of water or steam for 30 sec to an hour. (5939)

EMBOSSING ROLL COVERING. Carl Freudenberg KG. BP 877 231, Sept. 13, 1961.
Rolls combining resilience with abrasion resistance have a compact, uniform cover of superposed layers of nonwoven fiber webs consisting of 10 to 60% by weight of low elongation fibers and 90 to 40% by weight of high elongation fibers and impregnated with synthetic or natural rubber and a hardenable phenoplast or aminoplast. Curing is accomplished after the covering is shaped on the roll shaft. (5940)

Drying, setting, conditioning D4

OSCILLATING CUTTLING MECHANISM FOR DRUM SIEVE DRYERS. Fleissner & Co. GmbH. BP 871 413, June 28, 1961. (5941)

TENTERING MACHINE PIN BARS. G. Möhring (Germany). BP 871 417, June 28, 1961.
Curved pin structure which permits the fabric to remain freely suspended at a determined distance above the surface of the pin bar base to ensure uniform fabric treatment. (5942)

OPEN FLAME DRYING OF COATED WEBS TRAVELING AT HIGH SPEEDS. J. H. Flynn. BP 877 266, Sept. 13, 1961.
Transverse ribbon burners and associated transverse air jet nozzles are arranged in sequence along the length of the web and a common exhaust hood is provided with separate intake openings for each burner and its associated air jet nozzle. (5943)

TESTING AND MEASUREMENT E

Yarns E2

MINIMUM DIAMETER MEASUREMENT AND SORTING OF STRANDS FOR USE IN SURGICAL SUTURES BY DIGITAL FLYING SPOT SCANNER. G. E. Gerhardt (to Am. Cyanamid Co.). USP 2 999 590, Sept. 12, 1961. (5944)

Fabrics E3

ACOUSTIC INSTRUMENT FOR MEASURING FABRIC HAND. P. S. Veneklasen and F. Jorgensen (to U.S. Secy. Agri.). USP 2 922 303, Jan. 26, 1960.
The vibrations produced by rubbing samples of the fabric are utilized as an index of fabric hand or of the various properties which may affect fabric hand, e.g. harshness or softness, fiber stiffness, resilience, flexural rigidity, etc. (5945)

MILL MANAGEMENT F

Plant and equipment F2

TRAVELING BLOWERS FOR CLEANING TEXTILE MACHINES. Hubert Sohler GmbH. BP 871 809, June 28, 1961.
The traveling blower is combined with a ceiling blower for cleaning and filtering the air. (5946)

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TEXTILE *Technology* DIGEST

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